

THE SCHOOL REVIEW

A JOURNAL OF SECONDARY EDUCATION

VOLUME XL

JUNE 1932

NUMBER 6

Educational News and Editorial Comment

SPECIAL REORGANIZATIONS OF THE SCHOOL SYSTEM

The grouping of grades in reorganization.—As everyone knows, the public-school system over a long period of time was almost universally organized after a pattern providing for a four-year high school superimposed on an eight-year elementary school or, in certain southern states, on a seven-year elementary school. Then came the junior high school involving the downward extension of the high school and ushering in a variety of organizational patterns, such as the 6-3-3, 6-2-4, 6-6, 5-3-3, 5-2-4, and 5-6 plans. Junior high school reorganization has been so rapidly extended in recent years that the schools directly affected by it now include practically a fourth of the total of approximately twenty-four thousand public secondary schools in the United States. However, the 8-4 and 7-4 patterns are still numerically dominant.

A movement contemporary with junior high school reorganization is represented in the advent of the junior college. As the junior high school involves the extension of secondary education downward, the junior-college movement is in effect the upward extension of the secondary school. In many communities the establishment of both junior high school and junior college has brought extension

in both directions. This two-way prolongation of the period of secondary education has brought even greater diversity of organizational patterns. First to appear were the 8-4-2 plan, in situations in which a junior-college unit was merely superimposed on the two units previously maintained, and the 6-3-3-2 plan, in situations in which junior high school reorganization had been effected.

The pattern with longer units.—It was to be expected that, with the introduction into public-school systems of an eight-year period of education above the elementary school, certain systems would undertake a simplification of the arrangement which includes a long succession of four school units, namely, the elementary school, the junior high school, the senior high school, and the junior college. Such a step is encouraged by the obvious similarity of scope and purpose of the work of the junior college and the work of the later high-school years immediately below. The effort at simplification brought on the organizational pattern to which several systems shortly committed themselves, that is, the 6-4-4 or 5-4-4 plan.

This 6-4-4 or 5-4-4 plan is the first of two main types of special reorganization the status of which will here be briefly described. (The description is based in part on the first-hand observation of most of the reorganizations undertaken in connection with a project of the National Survey of Secondary Education.) The examples of the type are not numerous. They are fewer now, at least nominally, than might have been reported two or three years ago. The fact is that, without knowledge of the changes which would be involved in a reorganization aiming at actual integration of the junior college with the upper high-school years, certain systems were enthusiastically committed to the plan but subsequently abandoned it. However, it may be doubted whether these school systems ever went farther than the first steps, and none of those abandoning the plan can be said to have done more than take on a few of the superficial characteristics of an integrated upper four-year unit.

The system which has been most in the public eye because of its reorganization along this line is that at Pasadena, California. Integration of junior-college with upper high-school years has had time to go farther in that city than in any other similar organization. Most members of the staff in the upper secondary unit at Pasadena

teach at both high-school and junior-college levels. Membership in student organizations is held without regard for the conventional line of separation between high school and college. In many other ways the institution is a single educational unit. The feature of the institution in which integration is less thoroughly worked out than in others is the curriculum, and the hindrance here is not found within the system but in requirements imposed from without.

A second system in California now operating on the 6-4-4 plan is that at Ventura. There the former high-school plant is being occupied by the lower of the two new secondary-school units, and a new plant has been provided for the upper unit. The new organization is in its first year of operation. A third secondary-school system in California, that at Compton, which adjoins Los Angeles, has recently announced that it will shift to the 6-4-4 plan at the opening of the next school year. The tenth grade will be retained in each of the five junior high schools of the district, leaving for the last four grades the exclusive use of the commodious and centrally located high-school plant.

At Moberly, Missouri, the last four grades in the fourteen-grade system were moved in September, 1931, to a new plant provided for a four-grade junior college, and during the year long strides have been taken toward an integrated four-year unit. In this system only the eighth, ninth, and tenth grades are at present included in the lower secondary unit, but the rounding-out of the plan includes bringing the seventh grade also into this unit.

Another system operating on an analogous plan is that at Hillsboro, Texas. The organization there is on the 5-4-4 basis. A recent description of the Hillsboro plan, written by William Giles Campbell and published in the *Junior College Journal*, suggests that, although some integration of high-school and junior-college years has been effected, integration has not been carried so far as at Pasadena and Ventura. The schools at Iowa Falls, Iowa, have made some progress toward an integrated four-year junior college. At Salinas, California, a plan is in operation that divides the six grades beginning with the ninth into two units of three grades each.

Plans to economize time.—The second group of special reorganizations in public-school systems to be briefly described includes those

plans in which the aim is to economize time by shortening the period required to complete the work of the elementary and secondary schools (usually including the junior college). Three of these efforts are experiments being carried on under the auspices of the North Central Association of Colleges and Secondary Schools. One is going forward in Kansas City, Missouri, one of the few northern cities that has for many years operated an eleven-grade system. On this eleven-grade organization was superimposed a two-year junior college. In this system, therefore, the usual fourteen-year period of education has been shortened to thirteen years, most of the economy having been effected at the lower-school levels. The goal of the present experiment is further reduction of the full period by another year, making it possible to complete the work from the first grade to the end of the junior college in twelve years.

In this experiment the efforts at saving the additional year are focused mainly on the last four years of the present thirteen-grade system, although certain readjustments are also taking place in the lower secondary-school grades. The experimental group is housed in the Northeast High School, one of the senior high schools of the city, and the students are drawn from the section served by this high school. The experimental group is only a part of the entire student body of the school, and a program is followed which is independent of that for the rest of the school. Registration in the experimental group is voluntary and begins with the tenth grade, which may be understood to correspond roughly to the eleventh grade in a twelve-grade system. The experimental program undertakes to carry the student in three years through the last two high-school and the first two college years. The courses of the first year of the three-year program are referred to as high-school courses and those of the second and third years as college courses. The experimental program is in its second year, and the first entering group is just now nearing the end of its second year in the three-year plan.

The visitor who is acquainted with the ages of students in typical Freshman courses in college will be stimulated by the youthful appearance of the students in classes in this first group to speculate on their ages. For example, in a class in analytic geometry visited by

the writer, the students were found to be dominantly sixteen and seventeen years of age instead of eighteen and nineteen years—the typical ages of Freshmen students in this course in colleges generally.

The plans for appraisal of this experiment include (1) at the end of the courses administration of tests that are also given to students taking these courses in institutions conventionally organized and (2) comparison of the success of graduates of this plan who later transfer to higher institutions with the success of students in those institutions who have gone the customary route in the customary number of years.

The second experiment under the auspices of the North Central Association is being carried on at the Joliet Township High School and Junior College, Joliet, Illinois. The specific purpose of this experiment is to eliminate the duplication found in high-school and college courses. The plan of experimentation involves the offering of college courses to both high-school Seniors and college Freshmen. The experiment was begun with the college course in general chemistry. The results show that twelfth-grade students compare favorably in chemistry with the general tendencies of university Freshmen as revealed by standardized tests. The committee of the North Central Association supervising the experiment recommended that, whenever individual students from this school submit the specific requirement in Carnegie units set up by a given university and a full unit of chemistry in addition, they be given university credit toward the Bachelor's degree for the chemistry taught at the twelfth-grade level. The experiment has been extended to the field of American history and is expected to be applied to mathematics, foreign language, English, and other subjects. Should the results obtained in these additional fields be similar to those obtained in chemistry, important implications follow concerning the organization of education at this level.

The third of the experiments in economy of time approved by the North Central Association, that recently launched at Tulsa, Oklahoma, is of a still different type. It involves the shortening to twelve years, for the more competent students, of the fourteen-year period of general education. The complete program includes a careful study, classification, and grouping of students and a complete re-

writing of courses of study to achieve enrichment for all, the enrichment for the superior group to include at the top the first two years of college work.

Other reorganizations to effect economy of time, which in their present stage are hardly regarded by the authorities in charge as purely experimental, are those at Salt Lake City, Utah; Concord, New Hampshire; and Baltimore, Maryland. In Salt Lake City the twelve-grade program has been reduced to eleven grades. The saving was achieved at the elementary level. Graduates of the eleven-grade plan have been entering the University of Utah since 1929, and evidence indicates that they are holding their own in comparison with twelfth-grade graduates. The entire system is now on the eleven-grade basis and includes junior and senior high schools. The statement concerning the special reorganization in this western city should include mention, at least, of the fact that the complete reorganization contemplated involved upward extension to include a junior college to be housed with the senior high school grades—an extension halted temporarily by the financial difficulties everywhere encountered. At Concord an eleven-grade system has been operative since 1910, the saving having been made, as in Salt Lake City, at the elementary-school level. The system in Concord also includes junior high school reorganization. The authorities in this city also can cite evidence in support of the success in college of the graduates of the eleven-grade system. The plan at Baltimore, operative over a long period in two high schools, namely, Baltimore Polytechnic Institute and Baltimore City College, is one in which capable pupils are accelerated by being permitted to carry additional subjects so that five years of work are compassed in four years. These students are given second-year standing in a number of colleges and universities.

An obvious difference between the two types of special reorganization which have been described is that the first involves a readjustment of grades in the system while the second aims at a saving of time. The literature descriptive of 6-4-4 plans seldom refers to the desirability of economy of time, and visitors to institutions of the type hear little or nothing about it. One important reason is, doubtless, that schools operating on this plan have been only recently

organized and the authorities in charge have been absorbed in the pioneering tasks of working out a desirable integration. A more powerful obstructive influence is to be found in the mandates of standardizing agencies which forbid short cuts of any kind even for highly competent students. On the other hand, the cardinal principle of the second type of reorganization is the abbreviation of the full period of general education by one or two years. To be sure, the potency of the argument for shortening the period of education has been minimized considerably in these dire days when opportunities for employment are not available for young people who have completed their periods of training. The argument has been weakened particularly in its application to students who will not continue their education beyond the high school. The argument for economy, however, still applies in full force to the more capable students who definitely look forward to extended periods of academic or professional specialization in higher institutions. It would not be out of place for systems operating on the 6-4-4 plan to work out programs of acceleration for this group of students somewhat after the manner being followed in the plans aiming at shortening the full period of training.

VISITS TO SCHOOLS IN THE NATIONAL SURVEY OF SECONDARY EDUCATION

Procedures used in the National Survey of Secondary Education have been described in earlier issues of this journal. One of the procedures mentioned in these earlier statements is the making of visits to the schools—visits to provide contacts with practices carried on, to check on evidence collected in other ways, and to secure types of information not obtainable through other channels. Now that the work of the survey is nearing completion, readers may be interested in a brief statement concerning the total extent of visitation and the distribution of the visits over the country. The facts concerning the numbers of visits made and the distances traveled are not significant in themselves, but they indicate the effort which has been made to note conditions at first hand.

The total number of visits to schools made by the different specialists of the survey staff up to the first of May of this year is 850. These visits were made by twenty-five of the thirty professional

members of the staff—all those whose projects required first-hand contact with schools. The total number of different schools visited is 553, approximately 300 less than the total number of visits. This discrepancy is explained simply and chiefly by the fact that individual schools were sometimes visited in connection with more than one project; schools outstanding in one respect are likely to be outstanding in others. The itineraries of the specialists included, besides these visits, a large number of conferences with members of state departments of education, county and city superintendents, and other school officers. It is not assumed that these 553 schools include all those in which innovating and outstanding practices may be found. The resources of the survey made impossible such an ambitious program of visitation. The most that can be claimed is that the practices and conditions observed are *among* the best to be found in the country.

The distances traveled to make the visits total almost 200,000 railroad miles. The specialist traveling the greatest distance is responsible for two projects of the survey, and his itineraries entailed almost eighteen thousand miles of travel. The amounts for other specialists ranged down to about sixteen hundred miles, with an average of almost eight thousand miles.

The effort has been to observe innovating and outstanding practices in schools wherever located, not to distribute the visits evenly to all states and sections. It is therefore significant that the making of the visits took the specialists to schools in forty-one states and the District of Columbia. The significance is that innovating and outstanding practices are not concentrated in any single state or area but are widely scattered over the entire country. The distances traveled and the areas represented are evidence also that the survey is, in the sense of representativeness, a "national" survey. The record of individual practices and conditions observed should add value to the published reports.

A HIGH SCHOOL CONDUCTS A SCHOOL OF THE AIR

The term "school of the air" already has considerable currency. It has been applied chiefly to plans for more or less systematic educational programs given by commercial radio stations and by stations operated by higher institutions of learning. It is well-nigh, if

not entirely, unique for such a program to be conducted by a high school. The *School Review* has received, from H. J. Anderson, principal of the Graveraet High School at Marquette, Michigan, a communication which describes experiences with a plan whereby the faculty of that institution carry on the activities of such a "school."

Marquette, be it recalled, is a city of fifteen thousand, remote from large population centers. The *Daily Mining Journal* of that city owns and operates a radio station. In October, 1931, the Graveraet High School was equipped with a broadcasting studio consisting of a microphone and an amplifying set; thus it was unnecessary for the faculty to leave the high-school building to report at the main studio. Before the work was planned in detail and begun, the management of the station, through the pages of the newspaper, ascertained the subjects in which its readers would be interested. Further details of the plan and the experiences with it are best described in the words of the principal who directed the program. The plan is suggestive of values in adult education.

In the local situation it was felt that, because of the characteristics of the neighboring mining towns and the surrounding rural sections, the programs should be as elementary as possible. The listeners were encouraged to provide themselves with textbooks and notebooks when so directed by the instructor. It is, of course, impossible to know to what extent such suggestions are carried out, and it is doubtful whether the cost of an investigation would be justifiable. Not all subjects that might be offered by a school of the air lend themselves to class methods; some are, no doubt, more satisfactorily presented by the lecture method. However, the director of the local school of the air through radio announcements learned that language lessons were the only lessons which the average listener desired to have presented by typical classroom procedure. It seems that a person interested in a "Better-English Hour," for example, wants a definite assignment from week to week and is appreciative if the lessons, reviews, and tests are printed in the daily paper and later checked or marked by the instructor.

A problem confronting the director of this type of educational work is the time element. How many minutes should be devoted each week to the subjects selected? If a course is to be of value, it must be presented often enough to make the listeners feel that they are actually attending a school and are responsible for a fair measure of progress from week to week. Connected with this problem is the time of the day during which the school is "on the air." This factor in the local situation was determined by the free periods of the teachers concerned. Obviously, the time of the day when most listeners are at leisure

would be the most satisfactory for the school of the air. On the other hand, the writer is of the opinion that a school-of-the-air program should not unnecessarily inconvenience the faculty members, who already are burdened with a heavy teaching load. Perhaps the ideal time would be during the noon and evening hours. A radio station would naturally have to limit the amount of time given at noon and in the evening according to the nature of its commercial programs and the hours of broadcasting. On the other hand, housewives, farmers, and those who have irregular hours of labor can readily avail themselves of the opportunity to listen in during the morning and afternoon hours. This problem can perhaps be solved when more high schools provide instruction of this type and their experiences are systematically studied.

Ascertaining how the lessons are being received by the listeners and the number of persons who are really interested in the programs constitutes another major problem. Obviously, the most common method of answering these questions is to ask the listeners to write to the radio station or to the school. In the local situation the director of the school, in his weekly talk over the air, asked the listeners to notify the radio station if they were interested in the school of the air, how often they tuned in on the programs, and what subjects interested them most. A considerable amount of "fan mail" was received, and those in charge were convinced that the school met a definite need and should be continued throughout the school year. The local paper might also be used in a study of this kind. A daily paper commands resources which a high school does not when a questionnaire or some other method of seeking information is to be used.

Station WBEO, the *Daily Mining Journal*, Marquette, Michigan, broadcasts from 8:00 A.M. to 1:30 P.M. and from 4:30 P.M. to 7:30 P.M. on week days and from 8:30 A.M. to 7:00 P.M. on Sundays. The school of the air operates on the following schedule: Better English, 1:15-1:30 P.M., Mondays and Fridays; English literature, 1:15-1:30 P.M., Tuesdays and Thursdays; elementary civics, 9:30-9:45 A.M., Tuesdays and Thursdays; home economics, 10:45-11:00 A.M., Wednesdays; home decorating, 1:15-1:30 P.M., Wednesdays; principal's hour, "School Topics," 9:30-9:45 A.M., Wednesdays; elementary commercial law, 10:45-11:00 A.M., Thursdays; chemistry of common things, 10:45-11:00 A.M., Fridays; nature-study, 9:30-9:45 A.M., Fridays. These twelve periods of instruction interfere in no way with the regular work of the school since they occur when the teachers have free periods. The better-English, civics, law, and chemistry lessons are given in classroom style, and the material is taken directly from the actual classroom work of the week. The local paper prints reviews, check lists, and examinations. The "School Topics," nature-study, and home-decorating "hours" lend themselves best to the lecture method in the local situation. The work in the regular class in English literature is used for that hour on the school of the air. During the first semester the home-economics period was used chiefly for the presentation of recipes.

If the so-called "fan mail" is accepted as a criterion of the value of the re-

spective courses, the civics and better-English lessons meet the greatest demand and are the most satisfactory. Next in value, as judged by the number of reports sent to the director's office by the listeners, are the courses in commercial law and chemistry. The parents in Marquette, especially the mothers, seem to appreciate the "School Topics" given by the principal and the announcements made relative to report cards, the marking system, the causes of failure, the adviser system, and school news not mentioned in the weekly school newspaper. As might be expected, many men in the community who are interested in the animal life of our forests, expressed their appreciation of the nature-study period. There was a demand for French and Spanish lessons, but the local school was unable to provide these lessons. It appears that fine arts and appreciation courses are not demanded by the average radio listener in a town or rural district. Naturally, the foreign element of the urban and rural population is much interested in the English and civics topics; incidentally, the instructor of the civics class has a great opportunity to help those persons interested in obtaining their citizenship papers.

The writer wishes to call the attention of school administrators to the fact that in the local situation some difficulty was at first experienced in persuading the teachers to take part in the work of the school of the air. After receiving "fan mail," such teachers were apparently willing to continue. These same teachers, after five months of experience, are now very enthusiastic about the school of the air and welcome the opportunity to be of use to the community by sending their lessons over the ether waves.

DERIVING VALUES FROM EDUCATIONAL TOURS

In this section of the March *School Review* was published an item headed "Educational Tours for High-School Seniors," which was largely made up of a communication from J. M. Clifford, principal of the high school at Romeo, Michigan, in which he presented the case against these educational tours. This note prompted Donald P. Mattoon, headmaster of the high school at Littleton, New Hampshire, to report the recent experiences in his school with a tour of this kind. These experiences appear to be more favorable than those of Mr. Clifford. They are presented here in brief paraphrase and quotation.

In the Littleton High School a study of possible tours, methods of financing each, and the educational experiences to be derived was a project in the Senior home room. The primary object of the study was conceived to be "training in organization, management, and responsibility through active participation." A letter was sent to parents of Seniors asking, among other questions, whether they felt

they could pay the expenses of both a class trip and graduation; whether they were willing to have their sons or daughters go on such a trip; and what suggestions they had to offer about limiting expenses for a trip, for graduation, or for both. The parents were inclined to favor a trip and to be willing to pay the costs. The contribution of the class treasury was only \$6.50 of a total cost for the trip of \$52.50 for each individual. Organizations in the community contributed most of the cost of the trip for seven members of the class with limited funds. Mr. Mattoon describes the methods used to raise that minor portion of the total cost of the trip contributed from the class treasury. Because many Seniors had not had the experience of ordering meals in a hotel and did not know certain points of etiquette to be observed in traveling, opportunity was afforded in advance of the trip for education in these matters. Other means of preparation for the trip which were undertaken in order that it might yield a maximum of educational value are mentioned in the following quotation.

A Senior trip is not undertaken primarily for an outing or a good time; it is made so that all may gain valuable experiences about points of interest in states along the eastern seacoast. To furnish previews of scenes, the local theater showed two reels of films, and an illustrated lecture with eighty-five colored slides was also given. Tour pamphlets, booklets, maps, post cards, pictures, and charts were secured from various sources for use in the English classes, home-room work, and on the bulletin boards. A large map giving pictures of places to be seen on the trip was made by two pupils. The teacher of United States constitutional history in Grade XII endeavored to connect some study of the Washington Bicentennial with the Washington tour. Short talks on points of interest were given by pupils, the material for which was gathered through independent reading. Finally, the general committee, with the help of the advisers, developed items of information which were included in a mimeographed bulletin for the guidance of parents and pupils.

THE INCREASE IN PSYCHIATRIC CLINICS

The Commonwealth Fund of New York has recently published a *Directory of Psychiatric Clinics in the United States*. The work of compilation and editing has been done by the Division on Community Clinics of the National Committee for Mental Hygiene. The current publication is the third edition of the directory, the two earlier editions having been prepared in 1925 and 1928. The numbers of clinics listed in the three editions have been, successively, 318, 492,

and 674. In announcing publication of the edition for 1931, the Division of Publications of the Commonwealth Fund makes the following statement.

The great increase between 1928 and 1931 listings is due in part to the inclusion of psychiatric clinics for adults in the new edition, but, as there are only some fifty clinics serving adults exclusively, the net increase of clinics serving children is approximately 130. Of the 674 clinics in the country, 232 provide the threefold service of psychiatrist, psychologist, and psychiatric social worker.

The new edition, which represents the results of a canvass of the entire country, is believed to be complete. Not only psychiatric clinics but so-called neurological clinics were included when they were found to offer in reality psychiatric service. No attempt is made to evaluate the service of the clinics, but the directory does indicate the type of organization and the scope of the work in each case.

Although no one would contend that all such clinics are operating on a uniformly high level of effectiveness or that psychiatry in this early stage is on anything approaching a completely scientific basis, the growth of the movement is remarkable and is prophetic of increasing helpfulness in that phase of guidance of youth which may be referred to as adjustment.

CONFERENCE OF PUBLIC-SCHOOL ADMINISTRATIVE OFFICERS

During the week of July 18-22 a conference of public-school administrative officers will be held by the School of Education of the University of Chicago. The conference will have as instructors Ben G. Graham, superintendent of schools, Pittsburgh, Pennsylvania; Edward D. Roberts, superintendent of schools, Cincinnati, Ohio; Paul C. Packer, dean of the College of Education, University of Iowa; Don C. Rogers, director of research and building survey, Chicago Public Schools; and members of the Department of Education of the University of Chicago.

The university extends a most cordial invitation to public-school superintendents and principals to attend the conference. Arrangements have been made for those who attend the conference to visit classes and to enjoy other University privileges without the payment of fees. The various sessions of the conference will be held in the Library of Judson Court of the College Residence Halls for Men. Room and board will be provided in Judson Court from Monday morning, July 18, to Friday afternoon, July 22, for \$20. Reserva-

tions may be made through William J. Mather, Bursar, University of Chicago. Admission to the conference will be by ticket, without fee. Administrative officers of public and private schools may secure tickets by applying to William C. Reavis, Department of Education, University of Chicago.

CONFERENCE OF ADMINISTRATIVE OFFICERS
OF HIGHER INSTITUTIONS

A conference of administrative officers of junior colleges, teachers' colleges, colleges, and universities will be held at the University of Chicago on July 13, 14, and 15, 1932.

Room and board will be provided in the men's dormitory from Wednesday morning, July 13, to Friday evening, July 15, for \$12.00. Reservations may be made through William J. Mather, Bursar, University of Chicago. The conferences are open without fee to students registered in the summer quarter and to administrative officers of institutions of higher education. The central theme of the conference will be "Provision for the Individual in College Education." The complete program follows.

Wednesday Morning, July 13

BASIC FACTS AND ASSUMPTIONS

"Assumptions Underlying the Individualization of College Education," Ernest H. Wilkins, President of Oberlin College

"Psychological Bases of Individualization," Charles H. Judd, Dean of the School of Education, University of Chicago

"Fundamental Values in Personnel Work," H. E. Hawkes, Dean of Columbia College, Columbia University

Wednesday Afternoon, July 13

SELECTING AND ADVISING STUDENTS

"Advising and Classifying Freshmen at the University of Minnesota," J. B. Johnston, Dean of the College of Science, Literature, and the Arts, University of Minnesota

"Securing a More Highly Selected Student Body at the University of Wisconsin," F. O. Holt, Registrar and Director, Bureau of Guidance and Records, University of Wisconsin

"The Selection and Counseling of Students at the University of Chicago," A. J. Brumbaugh, Dean of Students in the College, University of Chicago

Thursday Morning, July 14

CURRICULUM PROVISIONS FOR INDIVIDUALIZING INSTRUCTION

"A Survey of Curriculum Provisions for Individualizing Instruction," George A. Works, Dean of Students and University Examiner, University of Chicago
"Curriculum Provisions for the Individual":

"In Antioch College," Algo D. Henderson, Dean of the College, Antioch College

"In the University of Chicago," C. S. Boucher, Dean of the College of Arts, Literature, and Science, University of Chicago

"In the University of Minnesota," J. B. Johnston, Dean of the College of Science, Literature, and the Arts, University of Minnesota

Thursday Afternoon, July 14

HEALTH, LIVING CONDITIONS, AND FINANCIAL AID
IN RELATION TO THE INDIVIDUAL

"Provisions for the Health of Students," Dr. D. F. Smiley, Medical Adviser, Cornell University

"Personal Adjustments in Relation to Living Conditions," R. H. Fitzgerald, Director of Student Service, University of Iowa

"Financial Aid and Employment Problems," Albert Beecher Crawford, Director of Department of Personnel Study and Bureau of Appointments, Yale University

Friday Morning, July 15

ADAPTING SPECIFIC COURSES AND TYPES OF TRAINING
TO INDIVIDUAL NEEDS

"The Individualization of Instruction in English Composition," Walter Blair, Assistant Professor of English, University of Chicago

"Adapting Instruction in the Modern Languages to Individual Needs," Otto F. Bond, Chairman, Modern Languages in the College, University of Chicago

"Provision for Individual Differences in Reading Habits," William S. Gray, Professor of Education, University of Chicago

"The Use of Objective Tests in Determining the Progress and Needs of Individuals," Karl J. Holzinger, Professor of Education, University of Chicago

Friday Afternoon, July 15

ATHLETICS, EXTRA-CURRICULUM ACTIVITIES
AND RELIGIOUS EXPERIENCE

"The Individual and Athletics," John M. Stalnaker, Examiner, Board of Examinations, University of Chicago

"The Individual and Student Activities," William E. Scott, Assistant Professor of Economics and Adviser in the College, University of Chicago

"Provisions for the Religious Life of Students," Charles W. Gilkey, Dean of the University Chapel, University of Chicago

TURNOVER AMONG HIGH-SCHOOL TEACHERS IN ILLINOIS

LEWIS W. WILLIAMS
University of Illinois

Many factors determine the efficiency of a school system, of which school plant, equipment, organization, curriculum, and personnel are probably the most important. The first two, and perhaps the third, are relatively easy to procure and control. The other two, however, are always challenges to educational leadership. In recent years both curriculum and personnel have been the subjects of many studies, investigations, and experiments. One phase of personnel, however, has not received the attention which its importance warrants, namely, turnover among teachers. Only a few studies of any consequence whatever have been made on this subject, and these cover only a limited period of time. Consequently, an investigation covering a reasonable length of time and including at least five or six thousand teachers gave promise of findings both interesting and valuable.

The study reported in this article was an attempt to gain information concerning the rate and causes of turnover among the teachers in the high schools of Illinois which are accredited by the University of Illinois. Because of tenure regulations in Chicago, all the high schools in that city were omitted from the study. The term "turnover" was used to denote additions to the staff caused by permanent withdrawals. Additions to the staff because of increased enrolment or new subjects offered were not considered in the study.

A period of ten years, from the autumn of 1921 to the spring of 1931, was included in the study. The sources of information were (1) the state educational directories issued by the state department of education for the years 1920-30, inclusive, (2) records in the office of the University of Illinois high-school visitor, and (3) questionnaires sent to teachers and principals. All who received questionnaires were requested to give their total teaching experience, the

number of changes made, and the cause or causes for each change made. Principals were also asked to give in rank order the reasons why teachers working under their direction had left. As a basis for these reports, the main causes for turnover given by Lewis¹ were listed in the questionnaire. Teachers were asked to check the reason or reasons for each change made. Opportunity was also given to suggest other causes.

The rate of turnover—the percentage relation between the number of replacements and the number on the staff—was determined for each of the ten years (1) for all schools, (2) for schools of certain sizes, and (3) for all principals in the state. The rate of turnover for principals was considered as the relation between the number of principals making a change and the total number included. Since all answering the questionnaires had been requested to give their total teaching experience and the number of changes made, data were available for ascertaining the relation, if any, existing between these factors.

The rate of turnover in all schools for each of the ten years, as well as the average for the period, is shown in Table I. It will be noted that the rate, 38.8 per cent in 1921-22, gradually became less until 1927-28, when a practically stationary period of three years followed. However, this uniformity was broken in 1930-31 by another decrease in the rate. Probably the year 1931-32 would show still another decrease. When schools were grouped according to size of staff, once more evidence of the decrease in turnover during the ten-year period was found. This condition was found whether the school was large or small, though the decrease was more pronounced in large schools. For illustration, five-teacher schools in 1921-22 had a turnover of 46.6 per cent, but in 1930-31 the percentage of turnover in these schools was 34.4. In ten-teacher schools the corresponding percentages were 48.0 and 25.7, respectively. The average turnover for schools of different sizes is of interest. In three-teacher schools the average was 46.7 per cent; in eight-teacher schools, 35 per cent, and in sixteen-teacher schools, 23.2 per cent. Significant also is the fact that there had been in some cases complete changes

¹ Ervin Eugene Lewis, *Personnel Problems of the Teaching Staff*, pp. 331-33. New York: Century Co., 1925.

of staff even in schools having as many as eight teachers. In schools where there are three, four, or five teachers, such complete changes are not infrequent. In several schools having sixteen teachers, twelve teachers, or 75 per cent, left. A pertinent question to ask under such circumstances is: How much time is required at the beginning of the school year for the staff to become acquainted and adjusted and to reach a respectable level of efficiency? Yet the evidence is conclusive that many of the smaller schools face this situation year after year.

TABLE I
NUMBER AND PERCENTAGE OF TEACHERS REPLACED IN EACH
OF TEN SCHOOL YEARS IN ILLINOIS HIGH SCHOOLS
ACCREDITED BY STATE UNIVERSITY

School Year	Number of Teachers Employed	Number of Replacements	Percentage of Turnover
1921-22.....	5,222	2,025	38.8
1922-23.....	5,613	1,746	31.1
1923-24.....	5,939	1,694	28.5
1924-25.....	6,189	1,702	27.5
1925-26.....	6,434	1,675	26.0
1926-27.....	6,653	1,604	24.1
1927-28.....	6,829	1,467	21.5
1928-29.....	7,076	1,561	22.1
1929-30.....	7,294	1,569	21.5
1930-31.....	7,571	1,414	18.7
Total.....	64,820	16,457	25.4

The turnover of principals for each year is given in Table II. This table also shows the gradual decrease shown in the case of the teachers, a stationary period for the last three or four years, and other similar characteristics. Probably the rate of turnover would have been somewhat less had only principals of accredited schools been included. Principals of all high schools in the state were here used.

Important as the rate of turnover and its variations may be, more important undoubtedly are the underlying causes. The causes used in this study were arranged according to the years of experience of the teachers reporting them. It was found, as shown in Table III, that "Professional factors" was almost unanimously the

first choice of teachers irrespective of experience, and "Economic factors" was second. Other causes show a great deal of variation. The conclusion is doubtless valid that there is no close relation between experience on the one hand and causes for turnover on the other, at least as reported in this study. When principals reported the reasons why teachers working under them had changed, "Economic factors" received one-third of the first-place votes and "Professional factors" one-fourth. Rather surprising is the fact that the cause "Refusal of board to reappoint" received one-sixth of all

TABLE II

NUMBER AND PERCENTAGE OF PRINCIPALS REPLACED IN EACH OF TEN SCHOOL YEARS IN ALL ILLINOIS HIGH SCHOOLS

School Year	Number of Principals in Illinois	Number of Principals New to System	Percentage of Turnover
1921-22.....	917	323	35.2
1922-23.....	933	324	34.7
1923-24.....	951	302	31.8
1924-25.....	962	307	31.9
1925-26.....	962	237	24.6
1926-27.....	970	235	24.2
1927-28.....	972	220	22.6
1928-29.....	963	219	22.7
1929-30.....	970	221	22.8
1930-31.....	976	223	22.9
Total.....	9,576	2,611	27.3

first- and second-place votes. It should be borne in mind, when these results are considered, that the principals were reporting opinions, or at least judgments based on memory of experiences, some of which may not have been particularly definite. On the other hand, teachers reported their own experiences, most of which, at least, were clearly in mind.

When principals reported the reasons for their own changes, the results were comparable to those secured for teachers. "Professional factors" clearly received a majority of the first-place votes and "Economic factors" a majority of the second-place votes. "Political factors" and "Refusal of board to reappoint" followed in the order named. Since "Political factors" often result in the refusal of the board to reappoint unless the principal assumes the initiative in

the matter of resigning, the ranks of these two causes, "Political factors" and "Refusal of board to reappoint," are highly significant, especially in the light of the fact that only recently has it been possible in Illinois to elect a principal or superintendent for more than one year at a time. Perhaps many high-school principals are not permitted to carry on the responsibilities of their positions free from interference. Perhaps there is something radically wrong with the system of selecting principals. Certainly the prominent position of the factor "Refusal of board to reappoint" warrants some such conclusion. What hope have we of securing the right type of leadership for our high schools if this situation continues?

TABLE III
RANKS OF REASONS FOR LEAVING

REASON	TEACHERS' REASONS REPORTED BY TEACHERS		TEACHERS' REASONS REPORTED BY PRINCIPALS		PRINCIPALS' REASONS REPORTED BY PRINCIPALS	
	Weighted Frequency	Rank	Weighted Frequency	Rank	Weighted Frequency	Rank
Professional factors.....	820.43	1	72.58	1	407.16	1
Economic factors.....	491.28	2	68.80	2	304.66	2
Geographical factors.....	148.01	3	15.66	7	29.33	7
Political factors.....	97.86	4	24.80	5	114.16	3
Individual factors.....	78.00	5	46.02	4	38.50	6
Social factors.....	76.25	6	23.54	6	50.83	5
Refusal of board to reappoint.....	52.41	7	49.62	3	72.00	4
Miscellaneous.....	38.45	8	3.73	8	24.00	8

Table III gives a summary statement of the reasons why the teachers and the principals changed positions. The weighted frequency was determined by assigning to a cause a value of one if given alone or if given a first-place vote, a value of one-half when given with another reason or when given a second-place vote, a value of one-third when given with two other reasons or when given a third-place vote, and so on. The emphasis on professional factors is clear. Teachers can hardly be criticized if they change in order to improve professionally. However, since higher salaries usually accompany professional advancement and since further training requires, as well as brings, more money, it is probably a safe inference that desire for higher salaries is a potent factor in turnover. This idea is

strengthened by the fact that a fairly large number of teachers listed these causes, "Professional factors" and "Economic factors," as equally important. Furthermore, principals considered "Economic factors" practically as important as "Professional factors" when reporting the teachers' reasons for changing. This emphasis was not equally evident, however, when principals reported the reasons for their own changes. Frankly, the questionnaires did not clearly distinguish between these two factors. Undoubtedly desire for better salaries is a very prominent factor in turnover.

Changes in the rank of the teachers' reasons as given by the teachers and the principals are interesting. Teachers placed "Geographical factors" in third place, but principals placed it next to the last. On the other hand, principals gave "Refusal of board to reappoint" third place, and teachers ranked it seventh. "Political factors" and "Individual factors" changed places, fourth and fifth, in the two rankings.

It is significant that teachers considered "Geographical factors," under which distance from home was mentioned, as more important than "Political factors." The record of the work of the appointments committee of the University of Illinois tends to verify this idea, save perhaps in years when positions are very scarce. However, items under "Political factors"—such as competition from home talent, annual elections, and local factions—undoubtedly play a prominent part in many communities. Perhaps teachers feel that their professional record appears better if they move in order to be nearer home than if they admit they have been victims of local politics. Certain it is that the principals did not consider "Geographical factors" an important cause for teachers' changes since they placed this reason in seventh position.

On the other hand, the principals placed the factor "Refusal of board to reappoint" in third position, while the teachers placed this factor seventh. Perhaps teachers are unwilling to admit that they have been discharged, perhaps they are told frequently that combinations of circumstances have been responsible rather than their own failure, or perhaps reliable returns should not be expected on this item. In any event, the difference in rank is difficult to explain. Doubtless principals do not always know why teachers leave, but

in this case, "Refusal of board to reappoint," there ought to be no question about the reason. In the judgment of the writer, "Political factors" and "Refusal of board to reappoint" are closely bound together and play a much more prominent part in turnover than teach-

TABLE IV
NUMBER OF TEACHERS MAKING VARIOUS NUMBERS OF CHANGES DISTRIBUTED
ACCORDING TO YEARS OF EXPERIENCE

NUMBER OF YEARS OF EXPERIENCE	NUM- BER OF CASES	NUMBER OF TEACHERS MAKING—								
		No Change	One Change	Two Changes	Three Changes	Four Changes	Five Changes	Six Changes	Seven Changes	Eight Changes
2.....	62	25	33	4	0	0	0	0	0	0
3.....	72	12	41	19	0	0	0	0	0	0
4.....	84	18	38	19	8	1	0	0	0	0
5.....	97	13	36	36	10	2	0	0	0	0
6.....	81	15	27	21	15	3	0	0	0	0
7.....	82	6	22	26	14	8	3	2	1	0
8.....	76	8	15	25	15	8	5	0	0	0
9.....	45	8	11	6	13	5	1	1	0	0
10.....	44	2	9	7	10	7	7	2	0	0
11.....	30	3	4	6	9	3	5	0	0	0
12.....	24	3	2	5	5	4	2	1	2	0
13.....	24	3	2	3	7	3	6	0	0	0
14.....	21	1	2	4	8	2	3	0	1	0
15.....	17	0	1	8	2	5	1	0	0	0
16.....	22	3	4	2	4	5	3	1	0	0
17.....	16	0	3	3	4	2	3	1	0	0
18.....	19	1	3	1	6	5	1	1	1	0
19.....	16	3	2	3	3	2	2	1	0	0
20.....	11	2	2	2	2	1	0	2	0	0
21.....	6	1	0	1	3	0	1	0	0	0
22.....	8	0	3	0	2	0	2	0	0	1
23.....	7	1	1	0	2	0	2	1	0	0
24.....	10	1	0	2	2	3	0	1	1	0
25.....	11	1	4	0	2	1	1	0	1	1
26-41.....	32	4	2	8	4	3	3	4	4	0
Total...	917	134	267	211	150	73	51	18	11	2

ers have indicated. Based on experience with the work of the appointments committee, the writer's opinion is that the principals have more nearly given a correct interpretation of the situation.

Table IV gives the number of changes made by the teachers arranged according to the experience of those changing. This table should be read as follows: Sixty-two teachers with two years of experience reported. Twenty-five of these sixty-two teachers had made no change, thirty-three had made one change and four had made

two changes. The number of teachers having twenty-six or more years of experience is so small that results for that group are not particularly significant. However, it should be noted that of the thirty-two teachers having twenty-six or more years of experience, none has made eight changes. In fact, out of 917 teachers reporting, only two had changed as many as eight times. One teacher who had taught for forty years had made no change whatever.

The table seems to indicate that there are two rather distinct groups of teachers, the changers and the non-changers. The former probably change themselves out of the profession or into college or administrative work. The latter make a few changes for the purpose of advancement, suitable working conditions, or proximity to home-folks and then become rather permanently located. The differentiation begins to make itself apparent with teachers with more than eight or nine years of experience. Certain it is that teachers of ten or more years of experience have made relatively few changes.

Further evidence of this fact is found in Table V, which shows that 134 teachers (14.6 per cent) made no changes whatever, 267 teachers (29.1 per cent) made but one change, and so on. It may be noted that 886 teachers (96.6 per cent) made five or fewer changes and that 762 teachers (83.1 per cent) made three or fewer changes. One further statement will give the point emphasis. Of the 318 teachers having ten or more years of experience, twenty-nine made no change; forty-four, one change; fifty-five, two changes; seventy-five, three changes; forty-six, four changes; forty-two, five changes; fifteen, six changes; and ten, seven changes.

A summary of the study and a few recommendations growing out of it follow. The study shows that the rate of turnover of teachers in the accredited high schools of Illinois is relatively high, averaging 25.4 per cent for the ten-year period. The rate has been decreasing until it is now approximately one-half the rate at the beginning of the period studied. The rate shows a tendency to become stationary, though economic conditions of the last two years may overcome this tendency. In general, the small schools have the highest rate of turnover, which decreases as size of school increases. However, it is still relatively large in many schools having from 8 to 10 teachers and enrolments up to 250. The rate of turnover for principals does

not differ materially from that for teachers. It probably has been a little less, especially in the case of accredited schools. The rate has been practically stationary for the last four years.

The study shows that "Professional factors" and "Economic factors" are the chief causes for turnover. The reports of teachers and principals concerning their own changes and the reports of the principals concerning the teachers' changes all indicate this fact clearly. If desire for advancement, an item under "Professional factors," is interpreted to include better salaries, probably the lure of higher salaries becomes the chief cause for turnover. If "Professional fac-

TABLE V
NUMBER AND PERCENTAGE OF TEACHERS MAK-
ING VARIOUS NUMBER OF CHANGES

Number of Changes	Number of Teachers	Percentage of Teachers
0.....	134	14.6
1.....	267	29.1
2.....	211	23.0
3.....	150	16.4
4.....	73	8.0
5.....	51	5.6
6.....	18	2.0
7.....	11	1.2
8.....	2	0.2
9.....	0	0.0

tors" and "Economic factors" are considered together, this conclusion seems valid. "Geographical factors," interpreted to include the desire to teach nearer home, is an important cause in the judgment of teachers. The principals, however, did not agree to the ranking given this cause by the teachers. The reports of the principals indicate that "Refusal of board to reappoint" and "Political factors" are much more important.

No significant relation between the number of years of experience of a teacher and the number of changes he has made is apparent. In general, teachers of long experience have made but few changes. Those of few years of experience who change often are likely to be eliminated from the profession. Not one teacher of the 917 who reported had made more than eight changes.

How does turnover among high-school teachers in Illinois compare

with that determined in other investigations? The percentages of turnover found by five other investigators are as follows: Allen, 35.0;¹ White, 37.0;² Seeder, 31.0;³ Johnson, 39.4;⁴ and Elsbree, 15.4.⁵ The percentage in the present study, 25.4, is the average for a ten-year period. Since most of the other studies are for a single year, or two years at best, it will be proper to give the rate in Illinois for each of the years of the other studies. The rate for 1921-22, the year of the Allen study, was 38.8 per cent; for 1922-23, 1923-24, the years of the White study, 31.1 per cent and 28.5 per cent, respectively; for 1924-25, the year of the Seeder study, 27.5 per cent; for 1925-26, the year of the Johnson and Elsbree studies, 26.0 per cent. In general, the Illinois record compares favorably with that of the other states, New York excepted. It is probably true that the situation in New York is better than that in Illinois. However, it is barely possible that the Elsbree study is not as representative of that state as a whole as this study is of Illinois.

In general, the chief causes found in this study—"Professional factors," "Economic factors," "Geographical factors," and "Refusal of board to reappoint"—compare closely with those of other studies. White's study shows marriage and leaving the profession as important causes. The former reason would come under "Individual factors" in this study, but the number of persons giving this reason would be at a minimum since the responses came from people still in the teaching profession. A similar explanation will hold for the other cause, leaving the profession. Dismissal or "Refusal of board to reappoint" does not have as important a rank in this study as the rank given it in some of the other studies, but it is a prominent factor. "Geographical factors," or a desire to teach nearer home,

¹ Hollis P. Allen, "Teacher Turnover and the Placement Problem," *American School Board Journal*, LXX (May, 1925), 45.

² Wendell White, "Rate and Causes of Turnover of Iowa Teachers," *American School Board Journal*, LXXI (December, 1925), 52.

³ R. I. Seeder, "Aspects of Tenure and Turnover among Minnesota Teachers," *American School Board Journal*, LXXVII (October, 1928), 114.

⁴ Raldo Johnson (as quoted by Seeder), "Analysis of Certain Factors Concerned in the Selection of Teachers in the Smaller School Systems of Minnesota," 1927.

⁵ Willard S. Elsbree, *Teacher Turnover in the Cities and Villages of New York State*, p. 18. Teachers College Contributions to Education, No. 300. New York: Teachers College, Columbia University, 1928.

rather important in some studies, is also relatively important in this investigation when the reasons reported by the teachers are considered. All in all, with marriage and dismissal as exceptions, this study parallels rather closely the findings of other studies relative to the causes of turnover.

When is rate of turnover too high? When is it too low? How much is desirable? These are questions which are difficult to answer. Probably no definite answers can be given without a full knowledge of the conditions and, even then, not for a single year but for a period of years. It is probably also true that it is essentially a local problem. As Elsbree has pointed out, a considerable proportion of turnover is unavoidable. Death, marriage, ill health, and retirement are causes beyond control. One can visualize a situation in which turnover in a school might be little or nothing for a period of ten or fifteen years. Probably, the efficiency of the school would be reduced considerably as a result. On the other hand, reasoning by analogy from industry, one is inclined to believe that a high rate of turnover materially reduces efficiency. The whole question should be viewed from two standpoints, that of the school on the one hand and that of the profession as a whole on the other. From the standpoint of the school, the rate of turnover should not reduce the chances for effective work; from the standpoint of the profession, it should always leave the way open for advancement for those properly qualified to become leaders in public-school work or in higher education. What is the proper relation? Who can answer this important question?

Even though this question cannot be answered definitely, we are doubtless justified in viewing with concern a situation in which, year after year, a third or more of the teachers are changed. Perhaps this concern would be justifiable if the limit were set at one-fourth. Reference is, of course, made to the individual school. It is, therefore, primarily with this thought in mind that the recommendations which are to follow are made. The whole problem is so complex that no one suggestion, even if faithfully followed, could materially affect the situation. However, it is felt that a number of the recommendations, if used together and persistently followed, could change the situation in a number of ways, perhaps for the better. The recom-

mentations made are based largely on the causes of turnover shown by the present study.

"Professional factors," including the matter of salary, was found to be the chief cause of turnover. This fact doubtless means that many schools cannot or do not offer opportunities for progress in the profession. Supervision involving careful adjustment and direction for the beginning teacher, as well as efforts for improvement in service of the whole staff, will materially reduce turnover and at the same time increase the efficiency of the teachers. Furthermore, supervision provides a means of eliminating in an honorable and professional manner those teachers who cannot be brought up to a reasonable standard of efficiency. Therefore, the recommendation is made that accrediting agencies require that a reasonable type and amount of supervision be given if the administration of a school is to be considered acceptable. Furthermore, since the small school districts cannot compete with the larger and wealthier districts, the recommendation is made that state aid be furnished in order that the small schools may pay salaries which will compare favorably with those paid by larger schools. A situation which sends the best teachers to larger and wealthier districts can never be justified.

Annual election of teachers is undoubtedly a potent cause of turnover. The necessity of facing re-election each spring, irrespective of the type of work done, is unwholesome, particularly when teachers are required to make application for the positions they are holding. Two suggestions are here made. A tenure law making it possible to elect a teacher for a period of three or five years, after a period of probation of one or two years, would doubtless help. The selection of a teacher is a highly technical function and demands ability and skill which many people do not possess. Therefore, principals or superintendents should make the selections, and the power of the board should be limited to final approval.

Another recommendation bearing on the subject of elimination pertains to the methods of selecting, or at least of training, candidates for the teaching profession. The time has undoubtedly arrived when we are justified in eliminating during the training period all but the more promising recruits. Character, ability, culture, ability to work with others, leadership, interest in young people, and

desire to be with them—these are a few of the factors which should serve in the selection. Teacher-training institutions must assume this responsibility and work out plans which will make it a realization. We dare not trust to present selecting agencies to engage only the better candidates.

A final recommendation which grows out of this study—a recommendation also made by Elsbree—is that the question of turnover be made a matter of local concern. This study has shown that in many schools the rate of turnover is unduly high. In such cases members of boards of education and the patrons themselves should be informed of the situation and of the probable inefficiency of their schools as a result. A wise and tactful principal can lead his community in an attempt to reduce the rate, even though it may take a number of years to reach a reasonable standard. He must be able to convince his patrons in a kindly way of the merit of his plans. Can it be true that a number of the weaknesses of the schools are a result of the fact that public-school leaders cannot convince, or have been unwilling to try to convince, patrons of the merits of much-needed changes? After all, what is most needed is constructive educational leadership. Let us hope that the profession will be able to meet the challenge.

INTERSCHOOL CONTESTS IN AMERICAN HIGH SCHOOLS

ELMER H. WILDS

Western State Teachers College, Kalamazoo, Michigan

The problem of interschool contests.—Interschool contests have become an extensive and important phase of secondary education. Although they are of comparatively recent origin, most of them having developed in the schools within the last quarter of a century, they have come to be of absorbing interest and considerable concern to large groups of pupils, teachers, parents, and to the general public—those who participate in the activities, those who sponsor and direct them, and those who encourage them as supporters and spectators.

The original athletic and forensic contests have been supplemented by many other types, namely, musical, literary, journalistic, dramatic, academic, agricultural, and commercial. This extensive array of contests is presenting many baffling problems to school executives, who are becoming more and more concerned with their solution. These problems are not of minor nor temporary significance, and yet most of the attempts to solve them have been rather superficial and sporadic. The recommendations that have been made recently for the handling of such problems have been full of inconsistencies and other evidence of hasty thinking.

What is greatly needed is a formulation of basic principles that will guide the administrator in desirable directions as he attacks these problems and tries to eliminate the evils involved. The entire field should be studied as a unit. Fundamental principles should be evolved in the light of which intelligent action may be taken. What is needed perhaps more than anything else is a careful survey of the facts, a thorough study of the present situation. The data given in this article represent a small beginning in that direction.

Source of the evidence.—The facts covering the status of interschool contests in high schools throughout the nation as set forth in the

following pages were secured by means of a questionnaire sent in May, 1929, to 491 high-school principals selected at random from the directory of members of the Department of Secondary-School Principals. The proportion of the membership selected from every state was about the same, and principals were selected from cities and towns of various sizes. Table I shows the geographical distribution of the schools to which question blanks were sent, the number of schools returning blanks from each section, and the percentage of returns by sections. The question naturally arises why such a small proportion of blanks was returned. In a great number of

TABLE I
NUMBER OF QUESTIONNAIRES SENT AND NUMBER AND PERCENTAGE OF
USABLE REPLIES FROM EACH GEOGRAPHICAL DIVISION

GEOGRAPHICAL DIVISION	NUMBER OF QUESTIONNAIRES SENT	USABLE REPLIES	
		Number	Per Cent
New England States.....	74	30	40.5
Middle Atlantic States.....	65	26	40.0
South Atlantic States.....	36	12	33.3
East Central States.....	135	51	37.8
South Central States.....	40	13	32.5
West Central States.....	101	20	19.8
Western States.....	23	9	39.1
Pacific States.....	17	7	41.2
Total.....	491	168	34.2

schools no records are kept covering the facts asked for. This statement is evidenced by the number of blanks returned with the notation, "No records kept of such data," and by the returns that could not be used because the principals gave the figures in round numbers and were obviously guessing. Undoubtedly, many other principals did not return the blanks because they did not have the data available. Many principals probably failed to return the blanks through indifference, neglect, or hostility to what many call the "questionnaire nuisance." No second request or follow-up letter was used to stimulate replies. If a follow-up letter had been sent, a number of additional returns might have been secured, but how usable these would have been is questionable.

In a way, then, the facts given in the following pages do not give an exact picture of the status of interschool contests. The principals

who replied are probably those who are most interested in these activities and who have done most to promote them. The picture, therefore, is probably exaggerated; the conditions revealed here are perhaps worse or better, depending on the point of view, than the actual conditions.

Schools of all sizes are represented in the study. However, the distribution by size, which is given in Table II, is not in the same proportions as that of all the schools of the country. For example, 95 per cent of the high schools of the country have enrolments of less than a thousand pupils. In this investigation only 57.7 per cent of the schools reporting are of this size. Only schools in the larger

TABLE II
DISTRIBUTION OF SCHOOLS REPORT-
ING BY SIZE

Enrolment	Number Reporting
Less than 500.....	50
500-999.....	47
1,000-1,499.....	26
1,500-1,999.....	23
2,000 and up.....	22
Total.....	168

cities have enrolments of more than two thousand, and yet 13.1 per cent of the schools reporting in this study are of that size. The reason for this situation is probably twofold: (1) The percentage of principals who are members of the Department of Secondary-School Principals is probably greater in the large-school group than the corresponding percentage in the small-school group. (2) The principals of the larger schools are more interested in these contests and are more likely to have readily available the data asked for than are the principals of smaller schools.

Types of contests.—The investigation revealed an amazingly large variety of activities through which high-school pupils engage in interscholastic competition. These activities may be rather arbitrarily grouped under certain headings designated as types of contests. The following outline lists all interscholastic-contest activities of each type that were reported to be carried on anywhere in the country.

I. Athletic contests

1. Football
2. Basket ball
3. Baseball
4. Track meets
5. Field meets
6. Tennis
7. Golf
8. Lacrosse
9. Hockey
10. Skiing
11. Skating
12. Swimming
13. Diving
14. Cross-country runs
15. Boxing
16. Wrestling
17. Pentathlon
18. Gymnastics

II. Public-speaking contests

1. Debate
2. Oratory
3. Declamation
4. Extempore speaking
5. Informal discussion

III. Music contests

1. Band
2. Orchestra
3. Instrumental groups
4. Instrumental soloists
5. Piano soloists
6. Boys' glee club
7. Girls' glee club
8. Mixed chorus
9. Vocal groups
10. Vocal soloists
11. Music memory

IV. Literary contests

1. Essay
2. Short story
3. Poetry
4. Extempore writing
5. Dramatic writing

V. Journalistic contests

1. Contests among publications
 - a) Newspaper
 - b) Magazine
 - c) Annual or yearbook
2. Journalistic-writing contests
 - a) News story
 - b) Feature story
 - c) Special column
 - d) Editorial

VI. Dramatic contests

1. One-act play
2. Player displaying most dramatic talent
3. Dramatic selection
4. Stage setting

VII. Fine-arts contests

1. Pictorial arts
2. Graphic arts
3. Fabrics
4. Textile design
5. Architectural design
6. Decorative design
7. Sculpture
8. Clay-modeling
9. Soap-modeling
10. Art crafts
11. Picture memory

VIII. Practical-arts contests

1. Woodworking
2. Furniture design
3. Cooking
4. Sewing
5. Interior decoration
6. Canning

IX. Agricultural contests

1. Judging contests
2. Farm-shop contests
3. Exhibition contests

X. Commercial contests

1. Typewriting
2. Shorthand
3. Transcribing
4. Rapid calculation

5. Bookkeeping
6. Penmanship

XI. Academic contests

1. Spelling
2. English
3. Mathematics
4. Latin
5. French
6. History
7. Social science
8. Science
9. Current events
10. Library science

Number of schools participating.—The investigation attempted to discover the extent to which each of these types of contests was to be found in the schools studied. It is to be expected that contests of certain types will be more prevalent than others. These types will be those which have a greater appeal to both participants and spectators and those which, having been in existence longer, have the strong force of tradition back of them. Although, historically, public-speaking contests antedate athletic contests, the latter are much more in favor because of the greater appeal of physical combat. Because the interest of both spectator and participant in physical contests is much greater than their interest in intellectual contests, the athletic contests are in most localities by far the more prevalent. The influence of the press through its sporting pages has also been a great factor in fostering athletic contests.

Music contests, although a somewhat recent innovation, have come to the front probably because of the great pleasure that music gives to both performers and listeners and also because of the new stimulation that the radio has given to musical appreciation and understanding.

The growing tendency for schools to enter their publications in competition with those of other schools is undoubtedly a result of the growth of interscholastic press associations, which have in recent years been organized in every section of the country. The commercial stimulus furnished by the engraving, printing, and bookbinding interests has also been a factor.

The number and percentage of the 168 schools represented in the investigation which engage in each type of contest are shown in Table III. From this table it is seen that contests of only two types, athletic and public-speaking, are to be found in more than three-fourths of the schools reporting, although two other types, music and journalistic contests, are to be found in slightly less than half the schools. Commercial contests are found in a little more than a third of the schools; academic and fine-arts contests, in a little less than a fourth of these schools.

TABLE III
FREQUENCY WITH WHICH 168 SCHOOLS REPORTED ENGAGING IN
VARIOUS TYPES OF INTERSCHOOL CONTESTS

Type of Contest	Frequency of Mention	Percentage of Schools
Athletics.....	162	96.4
Public-speaking.....	130	77.4
Music.....	78	46.4
Journalistic.....	68	40.5
Commercial.....	59	35.1
Academic.....	40	23.8
Fine-arts.....	40	23.8
Agricultural.....	24	14.3
Dramatic.....	23	13.7
Literary.....	5	3.0
Practical-arts.....	2	1.2

The large percentage of schools entered in fine-arts contests is probably caused by the influence of the publication known as the *Scholastic*, which fosters a large variety of such contests each year. Two reasons have been advanced for the growing prevalence of commercial contests and academic contests, two types of rather recent origin: (1) the desire of teachers of classroom subjects to utilize the competitive spirit to advance achievement among their pupils and to provide the teachers themselves with an opportunity to bask in the competitive limelight and (2) the influence of sponsoring colleges and universities who desire to bring to their campuses for the state contests high-school pupils of outstanding scholarship and ability.

The small number of schools reporting agricultural contests is probably due to the fact that these contests are found more often in the smaller rural schools and, as has been pointed out, these schools

are not represented in this study in proportion to their actual number. The small percentages of schools reporting literary and practical-arts contests are undoubtedly due to the fact that these types were not specifically listed in the question blank but were entered in the space left for additional types. Because of this fact, many schools probably overlooked these types—especially the essay contests, which are known to be numerous—or included them in other types. However, the percentages given in the table are probably in the main an approximation of the relative prevalence of the different types of contests in the secondary schools as a whole.

Number of pupils participating.—One of the most vital aspects of the interscholastic contest is the number of pupils actually taking part in the contests and the percentage that this number is of the total school enrolment. Of course, if the aims of the contests may be expressed in terms of benefits to the school and the community, the number taking part is not of great importance. If the contests are merely to provide entertainment for the student body and the community, if they are to be used to advertise the school and the town, if they are to be justified as an agency for developing the school spirit of the general student body and for developing interest and pride in the school on the part of the community—then a limited participation of trained specialists would probably be of greater value than a more general participation. If, on the other hand, these contests are justified on the basis of educational values in the training of the pupils participating, then all pupils should have a share in the attainment of these values and limited participation would be considered a distinct evil.

In this investigation considerable data with regard to the extent of participation were obtained. Each of the 168 schools represented in the study reported the number of boys, the number of girls, and the total number of pupils participating in each type of contest. They also gave the number of pupils taking part in contests of two or more types. These figures made it possible to determine the number of different participants through the elimination of duplicated participation in more than one type of contest.

In Table IV is shown the ratio of the total number of pupils participating to the total enrolment. The figures were tabulated as

follows: The numbers of pupils participating in all types of activity were added. These totals were compared with the total enrolments by sex, and the ratio of total participation to total enrolment for each sex was thus derived. It is interesting to note the relative percentages of boys and girls participating in these contests. Although 49.6 per cent of the total enrolment of the 168 schools is made up of boys and 50.4 per cent is composed of girls, only 30.7 per cent of the participants are girls, while 69.3 per cent of the participants are boys. Thus, if these interschool contests have educa-

TABLE IV
ENROLMENT IN 168 SCHOOLS STUDIED AND NUMBER OF PUPILS
PARTICIPATING IN ALL CONTESTS

	Number	Per Cent
Enrolment:		
Boys.....	87,781	49.6
Girls.....	89,335	50.4
Total.....	177,116	100.0
Participants in all contests:		
Boys.....	21,908	69.3
Girls.....	9,689	30.7
Total.....	31,597	100.0
Ratio of total number of participants to total enrolment:		
Boys.....		25.0
Girls.....		10.8
Total.....		17.8

tional values for the participants, the boys of the high schools are reaping the benefits to a much greater degree than are the girls. This situation is well worth serious consideration.

It will be seen also that, while in the case of the boys the total number of participants is 25.0 per cent of the number enrolled, in the case of the girls the total number participating is only 10.8 per cent of the number enrolled. Of course, there are probably cases in which the girls had the same opportunities as the boys but did not take advantage of them and also cases in which the girls were eliminated by the boys in tryouts. This elimination does not occur, however, in athletic contests, which involve the greatest number of participants.

If from the total number of participants is deducted the number of duplications caused by the participation of individuals in contests of two or more types, a more reliable measure of actual participation is secured. Table V shows these duplications. It is interesting to note that 2,674 pupils participated in two types of contests; 637, in three types; and 136, in four types. This situation raises the question whether opportunities should be increased by limiting participation to one type. If these contests have educational values, this limitation would cut down a pupil's chance to secure these values. Whether such duplicated participation would affect

TABLE V
NUMBER AND PERCENTAGE OF PUPILS PARTICIPATING IN CONTESTS OF
MORE THAN ONE TYPE AND CONSEQUENT NUMBER OF DUPLICATIONS

Number of Types of Contests	Number of Participants	Percentage of Enrolment	Number of Duplications
Two.....	2,674	1.51	2,674
Three.....	637	0.36	1,274
Four.....	136	0.08	408
Five.....	1	*	4
Total.....	3,448	1.95	4,360

* Less than 0.01 per cent.

the pupil's classroom work would depend somewhat upon whether the duplication of participation was simultaneous or consecutive.

It may be noted that there is no great evidence of any excessive degree of overloading through participation in many types of contests. Only one pupil was reported to be participating in more than four types of contests. Only 12.7 per cent of the number of different participants took part in more than one type, distributed as follows: 9.8 per cent in two types, 2.3 per cent in three types, and 0.5 per cent in four types. When the number of duplications (4,360, as shown in the last column of Table V) is deducted from the total number participating in all contests (31,597), the number of different pupils participating in interschool contests is found to be 27,237, or 15.4 per cent of the enrolment. It is significant that less than one pupil in six participates in contests of any type.

Proportionate participation in the different types of contests.—When the various types of contests are compared with respect to the extent of participation, the findings are rather significant. In Table VI the first fact that stands out prominently is the preponderance of participation in athletic contests, in which almost one out of every ten pupils participates. This preponderance is caused entirely by the heavy participation on the part of the boys, who participate in athletic contests to the extent of one out of every six enrolled.

TABLE VI
NUMBER AND PERCENTAGE OF PUPILS PARTICIPATING IN VARIOUS
TYPES OF INTERSCHOOL CONTESTS

TYPE OF CONTEST	BOYS			GIRLS			TOTAL		
	Number	Percentage of Participants	Percentage of Enrolment	Number	Percentage of Participants	Percentage of Enrolment	Number	Percentage of Participants	Percentage of Enrolment
Athletic.....	14,792	67.5	16.9	2,395	24.7	2.7	17,187	54.4	9.7
Music.....	3,162	14.4	3.6	2,732	28.2	3.1	5,894	18.7	3.3
Public-speaking...	1,078	4.9	1.2	915	9.5	1.0	1,993	6.3	1.1
Academic.....	913	4.2	1.0	1,052	10.9	1.2	1,965	6.2	1.1
Journalistic.....	752	3.4	0.9	970	10.0	1.1	1,722	5.4	1.0
Fine-arts.....	417	1.9	0.5	571	5.9	0.6	988	3.1	0.6
Commercial.....	158	0.7	0.2	564	5.8	0.6	722	2.3	0.3
Dramatic.....	235	1.1	0.3	381	3.9	0.4	616	1.9	0.4
Agriculture.....	349	1.6	0.4	53	0.5	*	402	1.3	0.2
Literary.....	37	0.2	*	46	0.5	*	83	0.3	*
Practical-arts.....	15	0.1	*	10	0.1	*	25	0.1	*
All types.....	21,908	100.0	25.0	9,689	100.0	10.8	31,597	100.0	17.8

* Less than 0.1 per cent.

In the case of the girls a larger percentage of the enrolment participate in music contests than in athletic contests.

Table VI also shows that over one-half of all those participating in contests participate in athletic contests. This fact is further evidence of the stress laid on athletic contests, particularly among the boys. More than two-thirds of all the boys participating in contests are in athletics. In the case of the girls a little less than one-fourth of the contestants take part in athletic contests. This situation is probably due to the fact that public competition between girls' athletic teams is being condemned and discouraged in most sections of the country.

With the exception of athletic and music contests, there are no contests in which more than one out of one hundred pupils participate. Music contests seem to be gaining in number of participants and have forged ahead of public speaking in this respect even though more schools conduct public-speaking contests than conduct music contests. Of course, the fact that music outstrips public speaking is a result of the large number involved in glee clubs, bands, and orchestras; in oratory, declamation, and extempore-speaking contests the school is ordinarily represented by single pupils. Music ranks second to athletics, with over 18 per cent of the participants

TABLE VII
COMPARISON OF PERCENTAGES OF BOYS AND GIRLS TAKING PART
IN VARIOUS TYPES OF INTERSCHOOL CONTESTS

Type of Contest	Percentage of Boys	Percentage of Girls
Agriculture.....	86.8	13.2
Athletic.....	86.1	13.9
Practical-arts.....	60.0	40.0
Public-speaking.....	54.1	45.9
Music.....	53.6	46.4
Academic.....	46.5	53.5
Literary.....	44.6	55.4
Journalistic.....	43.7	56.3
Fine-arts.....	42.2	57.8
Dramatic.....	38.1	61.9
Commercial.....	21.9	78.1

engaged in music contests. In fact, music ranks first in the case of the girls, over one-fourth of all girl participants taking part in musical contests. In the case of the boys, however, music ranks a poor second to athletics.

Table VII shows the comparative percentages of boys and girls participating in each type of contest. Boys lead in agriculture, athletics, practical-arts, public-speaking, and music contests. Girls lead in academic, literary, journalistic, fine-arts, dramatic, and commercial contests. Commercial contests show a decided scarcity of boy contestants, the girls outnumbering the boys almost four to one, the smallest ratio of boys in any type of contest. This fact is not surprising when it is considered that the commercial contests stress typewriting and shorthand and when it is realized that commercial

courses in the high schools are elected by more girls than boys. On the other hand, the agricultural contests are almost monopolized by the boys, the boys outnumbering the girls here almost seven to one. Except in the case of athletics, agriculture, and practical-arts contests, the girls participate to almost as high a degree as the boys or even outnumber the boys. The fact that the number of boys who participate in contests is over twice as large as the number of girls is entirely a result of the exceptionally large number of boys participating in the athletic contests.

SUMMARY

1. The investigation reveals that an extensive variety of interschool contests are carried on. Practically all these types of competition have developed in the high schools during the past quarter of a century.

2. Athletic contests are by far the most prevalent of all types of contests both in the number of schools and in the number of pupils participating. Public-speaking contests, although running a close second in number of schools participating, fall far below athletics in the number of pupils. Music contests are second in the number of pupils participating. Journalistic contests, commercial contests, and academic contests are types of contests involving a considerable number of schools and a large number of pupil participants.

3. A rather small percentage of high-school pupils participate in the contests. Consequently, whatever benefits there are in actual participation are limited to a very few. Only 17.8 per cent of the pupils enrolled participate in contests, and over half of these are athletes. Only 10.8 per cent of the girls in high school participate in contests of any type.

4. There is no evidence that any pupils are excessively overloaded by taking part in contests of many types. Only 1.95 per cent of the total number of pupils enrolled participate in contests of more than one type.

THE CONTENT OF HIGH-SCHOOL ANNUALS

LEONARD A. FLEENOR

Washburn High School, Minneapolis, Minnesota

For a number of years the staff of the *Scholastic Editor*, in conjunction with the Department of Journalism at the University of Minnesota, has conducted the All-American Yearbook Contest for judging high-school and college annuals. Each year several hundred yearbooks are received from all parts of the United States. A definitive and accurate entry blank giving information about the management and the financing of the annual must accompany the book, as the judging is partly based on this information. More than four hundred high-school annuals were entered in the contest in 1927. These were available for study in 1928, and one hundred annuals were selected for analysis. It was desirable to have as nearly a random sampling as possible in order that the results of the study would approach a cross-section of the practices in the country as a whole. In order that schools of different sizes might be represented with the same frequency, the selection was divided into the following enrolment groups, which correspond to the enrolment groups used in the contest: Group I, schools with enrolments of more than 2,000 pupils; Group II, schools with enrolments of 1,300-1,999 pupils; Group III, schools with enrolments of 700-1,299 pupils; Group IV, schools with enrolments of 300-699 pupils; and Group V, schools with enrolments of less than 300 pupils.

The random sampling was made by taking twenty yearbooks from those sent in by schools in each enrolment group. In only a few cases was the same city represented by more than one book. Thirty states and the District of Columbia were represented. The northern and central states were those most frequently included since they were most often represented in the contest. The number of cities in any one state from which books were selected varied from one to nine, only nine states being represented by five or more books. Michigan was represented by nine books; Illinois, by eight; Califor-

nia, by seven; Ohio, by seven; Wisconsin, by seven; Washington, by six; Indiana, by five; Minnesota, by five; and Missouri, by five.

It is reasonable to assume that most of the books submitted had been improved by the critical service and instructions sent out from the office of the *Scholastic Editor* previous to the contest and that a school would hesitate to enter its annual in the contest unless it was thought that the book had a fair chance to receive a favorable rating. For these reasons, the hundred books in the study were probably representative of the better high-school annuals published in 1927.

SOME CHARACTERISTICS OF ANNUALS

The range in the number of pages, the average number of pages, and the space devoted to photographs are shown in Table I. While

TABLE I
RANGE AND AVERAGE NUMBER OF PAGES IN ONE HUNDRED
HIGH-SCHOOL ANNUALS AND AVERAGE PERCENTAGE OF
SPACE GIVEN TO PHOTOGRAPHS

Enrolment Group	Range in Number of Pages	Average Number of Pages	Average Percentage of Space Given to Photographs
I.....	110-266	191.5	35.2
II.....	78-271	186.1	33.8
III.....	96-272	175.1	31.8
IV.....	64-204	139.5	30.8
V.....	56-178	106.5	23.1
All groups.....	56-272	159.7	30.9

the range in the number of pages is not always consistent from large group to small group, the average number of pages decreases consistently from the largest to the smallest enrolment group. The average number of pages is much smaller in Groups IV and V and causes the average for the hundred annuals to fall somewhat below the average of the middle group. It is obvious that a school in Group V, having an enrolment of about one-tenth the enrolment of a school in Group I, will find it considerably more difficult than does the larger school to carry the burden of an annual which on the average is somewhat more than half as large as the annual produced by the school in Group I. Only fifteen books contain one hundred or

fewer pages, while twenty-six books contain two hundred or more pages.

Many books are large and expensive because of the large amount of photography used. One book in Group I gives 62 per cent of its space to photography. The average amount of photography is a little less than one-third of the space in the books.

ORGANIZATION OF THE ANNUAL

Most of the annuals follow a rather definite plan of organization, as is indicated in Table II. End sheets are found in 89 per cent of the books. These add attractiveness and durability to the books,

TABLE II
SUMMARY OF PRACTICES IN THE OPENING PAGES OF ONE HUNDRED ANNUALS

	NUMBER OF ANNUALS IN GROUP					
	I	II	III	IV	V	Total
End sheets used.....	16	19	17	18	19	89
A central theme employed.....	16	17	17	18	16	84
Table of contents used.....	17	18	18	18	11	82
Dedication made:						
To teachers.....	5	3	6	2	0	16
To advisers and counselors.....	4	3	0	2	3	12
To principal.....	3	1	2	5	3	14
To vice-principal.....	2	1	1	0	1	5
To parents.....	1	2	1	2	4	10
Unclassified.....	5	8	10	9	9	41
All dedications.....	20	18	20	20	20	98

usually being of heavy paper and of a different color from the pages in the body of the annual. A table of contents is found in 82 per cent of the books. Ninety-eight per cent of the books are dedicated to some person or purpose. These features are rather consistent throughout all five enrolment groups.

In the dedication of the annual no particular practice is outstanding. A teacher, usually as adviser to the pupils or as sponsor of the annual, receives the honor in 28 per cent of the books; the principal or vice-principal, in 19 per cent. It is worthy of note that 10 per cent of the books give honor to the parents. There are some twenty-five or more practices in dedication, almost all different. A few of the persons or institutions mentioned in the dedications are given

here: "Alma Mater," "Mother Goose," the city manager, a physician, certain citizens, and the alumni.

A central theme is found in 84 per cent of the books, distributed proportionately throughout the five groups. There is less uniformity in the themes than in the dedications. The theme is in most cases peculiar to the individual school. Historical material, local interest and conditions, and educational life might be named as loose classifi-

TABLE III
DIVISIONS FOUND IN ONE HUNDRED ANNUALS AND NUMBER OF
ANNUALS GIVING SPACE TO EACH DIVISION

Division	Number of Annals	Division	Number of Annals
Faculty and administration . . .	95	Society	10
Athletics	89	Alumni	10
Classes	67	Military organizations	9
Organizations	66	Features and advertising	8
Activities	63	School calendar	8
Seniors	61	Fine arts	7
Humor and advertising	41	Forensics	7
Juniors	38	Junior high school	4
Sophomores	37	Art	3
Features	35	Social organizations	3
Advertising	32	Girls	2
Humor	31	Junior college	2
Freshmen	29	Scenic	2
Literature	28	Better cities	1
Music	16	Departments	1
Publications	13	Enrolment	1
School life	13	Honors	1
Dramatics	11		

cations of the themes mentioned. In some cases the subject of the dedication is rather abstract, and the theme consists in an elaboration of the dedication subject.

The uniform practice is to divide the body of the annual into departments. The number and types of divisions occurring are given in Table III. Thirty-five different divisions or departments are found, but not all are found in any one book. Data not included here show that one book has as few as four divisions, three books as many as fifteen divisions, while the average is 8.5 divisions.

The main study of the annuals was not based on the divisions given in Table III because these divisions are neither constant nor

uniform. In order to make a uniform analysis of the content of the annuals, a set of topics comprehensive enough to fit all books was

TABLE IV

NUMBER OF ANNUALS USING VARIOUS DIVISIONS OF CONTENT AND
AVERAGE NUMBER AND PERCENTAGE OF PAGES GIVEN EACH
DIVISION IN BOOKS IN WHICH DIVISION IS USED

Division of Content	Number of Annuals	Average Number of Pages	Average Percentage of Pages
Seniors.....	100	26.7	15.9
Introduction.....	100	6.2	4.1
Boys' athletics.....	100	13.9	8.7
Clubs.....	99	16.4	9.6
Faculty and administration.....	99	6.3	3.7
Annual administration.....	97	2.0	1.4
Music.....	96	4.6	2.9
Humor.....	94	9.7	6.2
Theme material and local scenery.....	94	7.3	4.2
Juniors.....	92	4.8	2.8
Advertising.....	90	23.8	15.4
Snapshots.....	89	6.1	3.9
Sophomores.....	89	3.5	2.0
Dramatics.....	85	3.6	2.3
Girls' athletics.....	83	3.8	2.4
Publications.....	74	2.1	1.4
School calendar.....	72	3.2	2.2
Forensics.....	72	2.3	1.4
Freshmen.....	71	3.2	1.6
Literary productions.....	66	6.2	4.5
Honor society.....	65	1.7	1.1
Autographs.....	61	2.0	1.3
Student government.....	57	2.2	1.2
Miscellaneous.....	53	3.6	2.3
Class history.....	42	2.1	1.5
Editorials.....	40	2.5	1.5
Class prophecy.....	38	3.1	2.1
Finis page.....	38	1.0	0.6
"In memoriam".....	35	1.2	0.7
Alumni.....	30	3.9	2.6
Class will.....	28	1.9	1.4
Military organizations.....	22	5.6	3.2
School history.....	21	2.1	1.5
Index.....	16	1.4	0.8
Art.....	11	1.8	1.0
Junior high school.....	10	4.8	3.5
Educational guidance.....	9	2.9	1.5
Junior college.....	5	10.0	5.2
Parent-teachers' association.....	5	1.4	0.9

formulated by the writer, and the content of each book was classified under these divisions. Thirty-nine topics were used, as shown in Table IV.

In the original tabulation each of the topics in Table IV was given detailed study, the findings being summarized for the twenty annuals in each of the five enrolment groups. Little can be done here except to present the data in the table, and perhaps little need be said. It is obvious from the table (and this statement will be borne out by the experience of almost any high-school teacher) that a

TABLE V

AVERAGE PERCENTAGE THAT NUMBER OF PAGES GIVEN EACH DIVISION IN ALL ANNUALS IS OF ALL PAGES IN ALL ONE HUNDRED ANNUALS

Division	Average Percentage	Division	Average Percentage
Seniors	15.9	Forensics	1.0
Advertising	13.9	Autographs	0.8
Clubs	9.5	Class prophecy	0.8
Boys' athletics	8.7	Alumni	0.8
Humor	5.8	Honor society	0.7
Introduction	4.1	Student government	0.7
Theme material and local scenery	3.9	Military organizations	0.7
Faculty and administration	3.7	Class history	0.6
Snapshots	3.5	Editorials	0.6
Literary productions	3.0	Class will	0.4
Music	2.8	Junior high school	0.4
Juniors	2.6	School history	0.3
Dramatics	2.0	Junior college	0.2
Girls' athletics	2.0	Finis page	0.2
Sophomores	1.8	"In memoriam"	0.1
School calendar	1.6	Index	0.1
Annual administration	1.4	Art	0.1
Miscellaneous	1.2	Educational guidance	0.1
Freshmen	1.1	Parent-teachers' association	0.1
Publications	1.0	Total	98.4*

* The difference between 100 per cent and the total here given represents the errors made in judging 15,070 pages of material, in tabulating and transcribing the material, and in summarizing 74 typewritten pages of original tables to the nearest tenth.

high-school annual puts the most emphasis on the Seniors, on boys' athletics, and on clubs, considerable space being sold to advertisers to help with the finances. Table IV shows that 90 per cent of these books contain paid advertising, which occupies 15.4 per cent of the space. Juniors, Sophomores, and Freshmen, while mentioned in a comparatively large proportion of the books, are given little space. Table V indicates that these three groups combined actually receive only 5.5 per cent of the total space of the one hundred annuals. Possibly it would be worth while to give these classes more recogni-

tion. The best authorities believe that a yearbook should reflect the broad interests of the whole school. Another group of topics which, it would seem, could be made of vast interest and importance but which are given rather slight recognition are the honor society, student government, the class history, alumni, school history, educational guidance, and parent-teachers' associations.

In Table IV the average percentage of pages for any topic is based on the number of books containing that topic. In Table V the average percentage of pages for any topic has been related to the entire paging of the one hundred annuals, and consequently these percentages are a better basis for comparing the amount of space occupied by the topics. It may be observed that the seven topics mentioned in the last sentence of the preceding paragraph have a combined average of 3.3 per cent, which is slightly more than one-half the space given to humor, 5.8 per cent.

CERTAIN IMPLICATIONS

Because of the obvious character of the evidence, space will not be taken for summary. Instead, a few of the possible implications will be presented.

1. The annual offers a fine opportunity for a school project, but it should represent the interests of the whole school. Graduating Seniors should continue to receive considerable emphasis, but underclassmen should receive greater recognition than is now given them in order that the interest appeal may be spread.

2. Seniors and boys' athletics are probably overemphasized in comparison to other topics. However, if athletics could be made to include the active interests of a larger number of pupils, this criticism could probably be eliminated. Only interschool athletics for boys receive any attention in the annuals studied.

3. Annuals offer opportunities to give educational guidance, both directly and indirectly, but few schools use these opportunities.

4. Recognition of the alumni, especially in small schools, seems proper and desirable.

5. The annual should be an all-year book, containing a record of events for the year, and work on its preparation should be started at least by the beginning of the school year.

THE GROWTH OF MATHEMATICAL VOCABULARY FROM THE THIRD GRADE THROUGH HIGH SCHOOL

L. C. PRESSEY
Ohio State University
W. S. MOORE

Superintendent of Schools, East Liverpool, Ohio

PURPOSES AND TECHNIQUES OF THE INVESTIGATION

At the time this study was undertaken, there seemed to be no exact information as to what technical words of a mathematical character were known by pupils of any given grade in school. Much less did anyone know even the approximate percentage of pupils in any given grade who could be expected to recognize the meaning of any particular word. The writers of textbooks obviously had to progress by use of a combination of such rough information on this point as is accumulated through years of teaching experience, of precedents (mostly derived from generations in which only a relatively few children finished elementary school), and of sheer guesswork. To discover what words were, under the present techniques of teaching, known in what grades was the purpose of the investigation reported in this article.

Previous research had already determined the words in arithmetic, algebra, and geometry that should be regarded as fundamental,¹ and tests covering these items had already been constructed. These vocabulary tests, covering 106 technical words in arithmetic, 49 in algebra, and 88 in geometry, were therefore used.² The arithmetic test was given to children from the third grade through high school. After some preliminary trial the algebra and geometry tests

¹ Articles presenting the research referred to will appear shortly in the *Elementary School Journal* (arithmetic) and in *School Science and Mathematics* (algebra and geometry).

² The numbers of words are slightly different from those which will be given in the articles referred to because the lists have received continuing consideration and changes between the time of those studies and the time this study was made.

were started in Grade VII and continued through the remaining grades. The total number of tests given in each grade runs from 406 to 643. The data presented in this article are the results of tests given in five cities of varying sizes, and they may be regarded as typical. It should be mentioned that in all cases *all* the pupils were tested, not merely the children in the mathematics classes. Presumably every pupil had had instruction in arithmetic and practically every pupil a little instruction in algebra, but a fair proportion of those in the upper years of high school had never studied geometry.

It should be said that these tests did not call for routine definitions but rather for a recognition of meanings. A few items are presented.¹

8. Which of the problems below means that you must subtract?

$$8+5= \quad 8-5= \quad 8\times 5= \quad 8\div 5=$$

10. In the fraction $\frac{3}{4}$ what is the 2 called?

answer denominator subtrahend numerator

127. What is the algebraic sum of the following numbers:

$$-8, 6, 2, -11, 3? \quad 8, 30, -19, -8$$

134. What is the coefficient of x in the term: $12mr^2x^2$?

$$2 \quad 12 \quad mr \quad 12mr$$

When the tests had been scored, a tabulation by item was made, and the percentage of pupils in each grade recognizing each word was determined. From these data, a graph, or "learning curve," was made for each of the 243 technical words. The remainder of the article will deal with facts brought out by study of these learning curves.

RESULTS OF THE INVESTIGATION

Eight learning curves are presented in Figure 1, representing results on the terms "minus," "altitude," "unit," "dividend," "solve," "per cent," "mixed number," and "prime factor." All the other curves are, with slight variations, similar to these.

It will be seen at once that certain terms, such as "minus," are learned early and are remembered throughout the high-school level. Others, like "altitude," are acquired slowly but steadily. A few, like "mixed number," are learned in the grade in which they are

¹ All geometry questions involved the use of diagrams and are therefore not reproduced here.

taught and are then forgotten. Some, like "solve," "unit," and "dividend," show only gradual acquisition and never a high percentage of mastery. A very few, such as "per cent," show an actual loss in

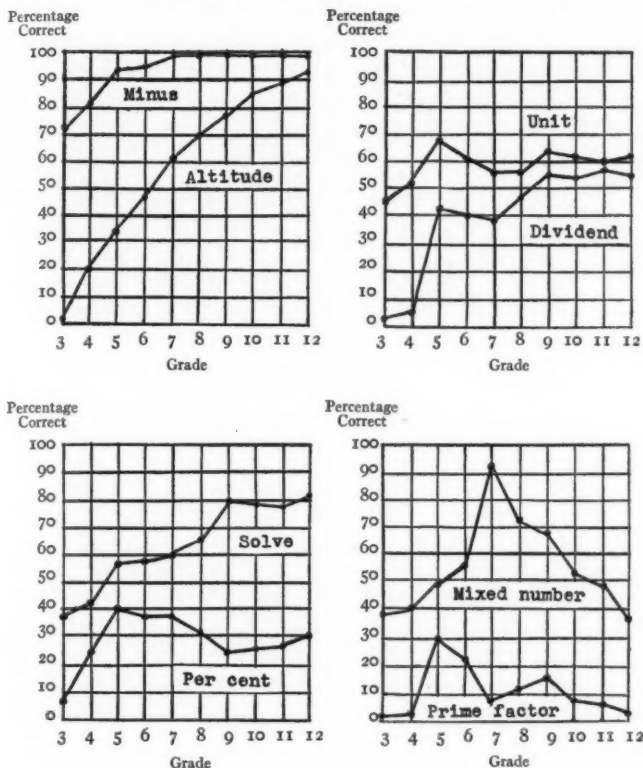


FIG. 1.—Percentages of pupils in Grades III–XII who recognized the meaning of each of eight mathematical terms.

the upper grades, perhaps because of confusion resulting from meeting a poorly learned term in many different connections. A few others, of which "prime factor" is an example, are never understood at any time by more than a handful of pupils. Teachers seem to insist that this term and others showing similar results are essential. If so, more emphasis should be placed on these words. The authors,

however, greatly doubt that such terms are needed; if they were, more pupils would know them.

All the examples given are taken from arithmetic because this subject is taught in more school years than is either of the others. The results secured with those words used in algebra and geometry are similar but considerably worse, as indicated by figures given later.

Some other interesting facts emerged from the study of the percentages and the learning curves. The words are classified in Table I according to their mastery by pupils. The table was made by tabulating, in the groups indicated, the *highest* percentage of pupils recog-

TABLE I
NUMBER OF WORDS SHOWING VARIOUS PERCENTAGES OF
MASTERY IN THE GRADE WHERE THE MASTERY
WAS HIGHEST

PERCENTAGE OF MASTERY	NUMBER OF WORDS			
	Arithmetic	Algebra	Geometry	Total
95-100.....	34	2	0	36
80-94.....	45	4	0	49
50-79.....	20	16	33	69
26-49.....	5	16	40	61
0-25.....	2	11	15	28

nizing each term, regardless of the grade in which it appeared. It should be noted that 89 words are *never* mastered by more than 50 per cent of the pupils at any level and that only 36 words are ever mastered by as many as 95 per cent. If an allowance of 5 per cent is made for errors caused by mere carelessness, then only thirty-six terms in arithmetic, two in algebra, and none in geometry are *ever* completely learned by every pupil.¹

It is also interesting to note the median number of words recognized by the pupils of the various grades as given in Table II. In Grade X, where the largest number of terms was known, the median

¹ It should be noted, however, that many words really belonging to algebra or geometry were included in the arithmetic list and were therefore not duplicated in the algebra or geometry sections of the tests; such concepts as "square," "rectangle," "pi," and "circumference" are, therefore, included under arithmetic. This fact makes the algebra and geometry results seem unduly bad.

score is 66 per cent of the total 243. The median mastery of arithmetic reaches 88 or 89 (out of the 106) and then seems to remain constant, but the median of the 49 algebra terms never exceeds 22, while of the 88 geometry terms no higher median than 51 is shown. In terms of individual performance, 20 pupils made scores of 100 or more in arithmetic; 11, scores of 40 or more in algebra, and 9, scores of 75 or more in geometry. On the other hand, in the high-school grades there were scores as low as 51 in arithmetic, 3 in algebra, and 2 in geometry.

TABLE II
MEDIAN NUMBER OF WORDS USED IN ARITHMETIC, ALGEBRA
AND GEOMETRY WHICH WERE RECOGNIZED BY
PUPILS IN GRADES III-XII

GRADE	MEDIAN NUMBER OF WORDS RECOGNIZED			
	Arithmetic	Algebra	Geometry	Total
III.....	16	0	0	16
IV.....	31	0	0	31
V.....	42	0	0	42
VI.....	59	0	0	59
VII.....	71	3	13	87
VIII.....	84	7	19	110
IX.....	89	22	24	135
X.....	89	21	51	161
XI.....	89	13	47	149
XII.....	88	11	46	145

MEANING OF THESE RESULTS

The writers would like to offer the suggestion that inadequate mastery of fundamental terminology (as shown by these results) is one of the most important reasons for the difficulty encountered by so many persons of all ages and social strata in dealing with anything of a mathematical nature. They have never mastered these relatively simple, fundamental meanings, and their efforts to build on a shaky foundation have been so futile that they have come to regard mathematics as a subject which can be mastered only by those with a "genius" for figures.

Writers of textbooks intended for either elementary-school or high-school pupils will most certainly find a lesson in the results cited.

The present textbooks, and the instructional techniques based on these books, are not adequate to teach the fundamental vocabulary upon the daily use of which the work of the books obviously depends. Either the textbooks should be rewritten to fit the meager vocabularies of the children who use them, or, much better, a drive should be made by everyone concerned (with probably some revision of textbooks in order that the use of nonessential words may be cut down and thus a better chance be given for mastery of the essentials) upon this matter of acquisition by the pupils of those meanings in terms of which they must work. It is clear that the mastery which is presupposed and the mastery which is actually shown by these results are quite divergent.

DIFFICULTIES ENCOUNTERED BY HIGH-SCHOOL GRADUATES IN THE USE OF VERBS

WALTER SCRIBNER GUILER
Miami University, Oxford, Ohio

The data for the study reported in this article were derived from an analysis of the test papers of 625 high-school graduates who were given the Guiler-Henry Preliminary Diagnostic Test in Grammatical Usage during their first week as Freshmen in Miami University. The test covers forty-five principles of grammatical usage, the application of each, with two exceptions, being measured two or more times. Sixteen of the principles relate to the more common uses of pronouns, and twenty of the principles relate to the more common uses of verbs. The difficulties encountered by the 625 high-school graduates in applying the sixteen principles of pronoun usage were reported in an earlier article in the *School Review*.¹ The difficulties encountered by the same students in applying the twenty principles of verb usage are reported in this article.

The data resulting from the analysis of errors found in the students' test papers are presented in Table I. In this table three types of data are given: (1) the principles of verb usage included in the test, (2) the percentage of error for each type of usage and the rank of the error determined by its percentage of frequency, and (3) the error quotients and the ranks of the various errors determined by the error quotients. The percentage of error for each usage was computed by dividing the number of errors made in the application of a particular principle by the total number of errors made in the application of the twenty principles. The error quotient in each case was obtained by dividing the number of errors made in a particular usage by the number of chances for making errors in that usage. Errors made in the application of each of the twenty principles were ranked on the basis of error quotients and the percentage of error,

¹ Walter Scribner Guiler, "Difficulties Encountered by High-School Graduates in the Use of Pronouns," *School Review*, XXXIX (October, 1931), 622-26.

respectively. A study of Table I reveals a number of facts of significance to teachers of English in high schools.

First, verb usage is found to be a composite of many specific usages. These involve different abilities to use verbs in their various mode, tense, voice, person, and number relations. Twenty separate and distinct abilities have been recognized.

Second, a few type errors accounted for most of the mistakes that were made. The percentages of error presented in the table show that more than one-fourth of all errors that were made involved the use of only three principles (1, 2, and 3). More than one-half of the errors involved the application of only six principles (1, 2, 3, 4, 5, and 15). Approximately three-fourths of the errors were due to difficulties in applying only one-half of the principles (1, 2, 3, 4, 5, 6, 7, 8, 9, and 15).

Third, only a few uses of verbs presented difficulty for large numbers of students. Evidence for this statement is found in the error quotients found in the fourth column of Table I. The data show that only three of the twenty principles offered difficulty for as many as one-half of the students; only five principles, for as many as two-fifths of the students; and only six principles, for as many as one-third of the students. Error hazards were encountered by fewer than one-tenth of the students in applying three of the principles, by fewer than one-fifth of the students in applying seven of the principles, and by fewer than one-fourth of the students in applying one-half of the principles. The educational bearing of the data on this point is clear. Group instruction should be employed when a majority of the students encounter a given difficulty. In the case of those items that cause difficulty for only a limited number of learners, instruction should be organized on an individual basis.

Fourth, marked variation characterized the extent to which the various uses of verbs had been mastered by the high-school graduates. The error quotients show that the error hazards involved in Principle 1, for example, as compared with the error hazards involved in other items of usage were approximately of the following ratios: with Principle 7, two to one; with Principle 12, three to one; with Principle 15, four to one; with Principle 17, six to one; with Principle 18, eight to one; and with Principles 19 and 20, nine to one.

TABLE I
PREVALENCE OF TYPE ERRORS IN VERB USAGE OF 625 HIGH-SCHOOL GRADUATES

Principle of Verb Usage with Which Difficulty Was Encountered	Percent- age of Error	Rank Based on Percent- age of Error	Error Quo- tient*	Rank Based on Error Quo- tient
1. General truths or statements which are still true are put in the present tense.	10.6	1	.65	1
2. The present participle should be used only to denote an action consistent with the time of action of the main verb.	9.6	2	.59	2
3. A collective noun is singular when considered as a whole and plural when its parts are thought of separately.	9.1	3	.56	3
4. The tense of the verb in the principal clause governs the tense of the verb in the dependent clause.	7.5	5	.46	4
5. Infinitives are in the present tense unless they represent an action earlier than that of the main verb.	7.0	6	.43	5
6. The subjunctive mode is used to express a condition highly improbable or actually contrary to fact.	6.3	7	.39	6
7. A compound subject made up of two singular nouns joined by "or" or "nor" is followed by a singular verb	5.3	8	.32	7
8. The verb in a relative clause agrees in number with the antecedent of the pronoun introducing the clause	5.1	9	.31	8
9. Modifying phrases like "as well as," "accompanied by," etc., do not affect the number of the subject they modify.	5.0	10	.30	9
10. A compound subject made up of both singular and plural nouns is followed by a verb which agrees in number with the nearest noun.	4.8	11	.29	10
11. A verb agrees in number with its subject in spite of the number of the nouns which intervene.	3.9	12	.24	11
12. The following words are always followed by singular verbs: "each," "every," "everyone," "everybody," "any," "anyone," "anybody," "either," "neither," "no one," "nobody," "many a one," "someone," "somebody," "one," "a person," and "none" (if the meaning is individual).	3.6	13	.22	12
13. The following nouns are always considered plural: "oats," "riches," "scissors," "trousers," "proceeds," "nuptials," "caves," "shears," "pincers," "annals," "links" (golf).	3.4	14	.21	13
14. The subjunctive mode is used to express a wish or regret.	3.1	15	.19	14
15. The present, past, and past-participle forms of the verb (principal parts) must be carefully distinguished	8.1	4	.17	15
16. The following nouns, although plural in form, are usually considered singular: "athletics," "politics," "news," "physics," "mathematics," "gallows".	2.4	16	.15	16
17. The verb of a sentence agrees in number with its subject and not with its predicate noun.	1.7	17	.11	17
18. A verb must agree in person with its subject.	1.2	18.5	.08	18
19. A verb following the expletive "there" agrees in number with the noun which follows.	1.2	18.5	.07	19.5
20. A compound subject, made up of two nouns joined by "and," is followed by a plural verb.	1.1	20	.07	19.5

* The error quotient for each type of usage was obtained by dividing the number of errors made by the number of chances to make errors.

Fifth, the students manifested marked individuality in the types of errors that were made. Evidence of this fact is found in Table II. The numbers in the horizontal row at the top of the table refer to the verb usages listed in Table I. The crosses mark the points at which difficulty was encountered by ten students who obtained the same score on the verb section of the test. The errors made by each student can be identified by reading the table from left to right. Table II shows that difficulties encountered in the use of verbs were individual and specific. Although all the ten students included in the table obtained the same score in the verb section of the test,

TABLE II
DIFFICULTIES ENCOUNTERED IN VERB USAGE BY TEN STUDENTS

STUDENT	NUMBER OF USAGE IN WHICH ERROR WAS MADE*																				TOTAL NUMBER OF ERRORS
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1.....	X	X	X		X		X		X	X	X	X				X	X				11
2.....	X	X	X	X	X	X	X	X		X	X		X		X						12
3.....		X	X	X	X	X	X	X	X	X			X		X				X		12
4.....		X	X	X	X	X	X	X	X	X	X			X	X						12
5.....	X	X		X		X		X		X				X	X	X	X				13
6.....	X	X	X		X		X		X		X	X	X	X	X			X			13
7.....	X	X		X		X		X	X	X	X	X	X	X	X	X					14
8.....	X	X	X	X				X	X	X	X	X	X	X	X		X				14
9.....	X	X	X			X	X	X	X	X	X	X	X	X	X				X		15
10.....	X	X	X	X		X	X	X	X	X	X	X	X	X			X				16

* The numbers in the horizontal row refer to the verb usages listed in Table I. Each error is indicated by means of a cross in the appropriate space.

they manifested marked variation in the nature and extent of their difficulties. Student 1 made errors in eleven usages, while Student 10 made errors in sixteen usages. Although Students 5 and 6 made the same number of errors, only eight of the errors were made by both.

Sixth, the students evidenced a lack of ability to transfer training from one usage to another. Even in the case of usages which involve somewhat similar elements, there was no evidence of any large amount of transfer. In this connection, the reader's attention is called to the differences in error quotients between the following items of usage shown in Table I: 6 and 14, 7 and 20, 11 and 18.

The following statements, which seem to be justified by the facts that have been presented, are made by way of summary and conclusion.

1. Verb usage is a composite of many specific abilities to use verbs in their various mode, tense, voice, person, and number relations.

2. Most of the difficulties were associated with a comparatively small number of principles; more than one-half of all the errors belonged to only six types.

3. Comparatively few principles caused difficulty for large numbers of students; only three principles presented difficulty for as many as one-half of the students.

4. Wide variation characterized the degree of mastery of specific principles of verb usage.

5. The students manifested marked individuality in the types of errors that were made.

6. A distinct need for much individualized instruction was apparent.

7. The evidence shows that training cannot be relied upon to transfer from one usage to another in any significant degree.

CURRICULUM PROBLEMS OF SMALL RURAL HIGH SCHOOLS IN TEXAS

D. M. WIGGINS

Simmons University, Abilene, Texas

On all sides is found abundant evidence of the belief of the American people in their schools. The establishment of elementary and secondary schools has gone forward with almost unbounded enthusiasm in all parts of the country. Rural communities, impressed by recent trends in educational organization in urban centers, have been zealous in extending their schools beyond the elementary grades. It is not difficult to understand that the ardent desire of the community for the establishment of the high school often results in stereotyped conceptions of its functions. The popularization of secondary schools and the development of proper recognition of the essential characteristics of such schools have not always evolved concomitantly.

Immediately upon the organization of a small high school, a strong spirit of defense and justification springs up in the community. The school is praised and defended, not so much because of its actual educational contribution, expressed in terms of the adjustment of youth to life-activities, but rather because it belongs to the community. Thus to indict the rural community and to exclude the urban district is perhaps unfair since the fallacy of exalting form above function has operated without distinction. The evidence, however, seems to present an unusually strong case in this instance against the rural high school.

The curriculum of the small high school has apparently followed the path of least resistance and is, therefore, extremely traditional. As a rule, the community has given the administrative officer the authority to set up the program of studies for the school. Almost without exception, the subjects included in the program are those which have become entrenched by traditional influences. Seldom

have functional criteria been considered in curriculum-making. The result has been that in many rural high schools the courses offered parallel those of small academies or college-preparatory institutions. The indiscriminate establishment of small high schools has not resulted in the extension of equality in educational opportunity.

Texas, with her vast areas, is largely a rural state and, as such, presents many problems in the organization and administration of her schools which are distinctly those of the small community. The rapid growth of high schools in the state during the past few years is significant. In 1920 there were 496 high schools accredited by the State Department of Education compared with 833 schools for the year 1930, an increase of 67.9 per cent during the decade. During the school year 1929-30 a total of 235,842 high-school pupils were enrolled in all common and independent school districts. True to normal prediction, the enrolments in the high schools located in common-school districts were very small. Indeed, a majority of the schools in the independent school districts must be properly described as small high schools. The directory of classified and affiliated high schools in Texas for 1929-30 listed 833 schools. Of this number, 436 (52 per cent) enrolled 100 or fewer pupils. Data obtained with regard to 428 high schools which enrolled 100 or fewer pupils revealed that 255 schools had enrolments of 51-100 pupils, with a median enrolment of 74.75. There were 173 schools which enrolled 8-50 pupils. The median enrolment for these schools was 35.62, and 43 of the schools enrolled 25 or fewer pupils.

This article is concerned particularly with the curriculum problems of high schools with enrolments of fifty or fewer pupils. The title and frequency of courses which were offered by 140 such high schools are given in Table I. This group of schools is composed of 105 four-year high schools and 35 three-year high schools. A mere glance at the table is enough to convince one that the curriculum content of these small high schools is traditional and designed largely to fulfil college-entrance requirements. Ferriss says:

From whatever angle one approaches the question of the programs of studies and curriculums in small high schools he is driven to but one conclusion—they are as a whole formal and traditional. The smaller the school, the more formal,

the more traditional they are. Although many new subjects have gained recognition in the programs of a relatively small percentage of these schools, they have entered haphazardly as it were and are usually but appendages to the old group of subjects still regarded as basic to a secondary-school training.¹

An analysis of the subjects offered in Texas rural schools certainly lends confirmation to Ferriss' indictment. The undue emphasis given to algebra is indicative of the extreme formalism of the programs of

TABLE I
SUBJECT OFFERINGS OF 140 TEXAS RURAL HIGH SCHOOLS
ENROLLING FEWER THAN 51 PUPILS

Subject	Frequency with Which Offered	Subject	Frequency with Which Offered
English.....	140	Physiography.....	13
Algebra.....	129	English history.....	12
Ancient history.....	115	Chemistry.....	12
Plane geometry.....	112	Latin.....	12
Modern history.....	105	Agriculture.....	10
American history.....	100	Commercial arithmetic.....	9
General science.....	91	Typewriting.....	9
Civics.....	85	Trigonometry.....	7
Spanish.....	66	Shop work.....	7
Advanced arithmetic.....	45	Commercial law.....	5
Biology.....	38	Sociology.....	4
Economics.....	34	Stenography.....	3
Home economics.....	34	Mechanical drawing.....	3
Solid geometry.....	23	Music.....	2
Physics.....	19	German.....	2
Physiology and hygiene.....	17	Public speaking.....	2
Commercial geography.....	16	Latin-American history.....	1
Bookkeeping.....	16	Texas history.....	1
Vocational agriculture.....	14	Occupations.....	1

studies. Among the 140 schools, 129 offer from one to two years of algebra. Not only that, but in practically all the 129 schools two years of algebra are required for graduation. Plane geometry also stands high in frequency, separated in the table from algebra only by the subject of ancient history. Solid geometry is given in twenty-three schools, while trigonometry is offered in seven of the schools.

Among the social sciences distinct preference is shown for ancient and modern history. American history is offered in 100 schools compared with the total of 220 offerings in ancient and modern his-

¹ Emery N. Ferriss, *Secondary Education in Country and Village*, p. 43. New York: D. Appleton & Co., 1927.

tory. Not only does American history appear to disadvantage in frequency of occurrence, but the programs of studies are so arranged that it is offered only in the third or fourth year. Because of the fact that the percentage of elimination from small high schools during the first two years is high, the opportunity for the youth of rural communities to acquaint themselves with the history of the development of their own country is still further lessened. Civics and economics, which are also reserved for the third and fourth years, occur in school programs eighty-five and thirty-four times, respectively. In the light of these findings, it would seem that, if the youth of rural communities are to be oriented in the attitudes and activities of the present-day civilization, a thorough reorganization of the offerings in the social sciences must take place. The social-science program in the small high school is composed largely of the story of the development of civilizations of the past. Worthy as this phase of the program may be, the consequent neglect of the problems of contemporary living is deplorable. Even the most rigid college-entrance requirements do not warrant such misplaced emphasis.

Among the natural sciences, general science has grown in favor in the small high schools. It appears in 91 schools, or in 65 per cent of the total number of schools represented. Biology is offered in thirty-eight schools and is allotted second place among the natural sciences. Agriculture, general and vocational, occurs in the programs of twenty-four schools. It is interesting to find that the subject of solid geometry occurs in more programs of study than does vocational agriculture. Physics is given in nineteen schools and chemistry in twelve. On the whole, these courses are planned and presented just as they would be offered in city schools, and little or no attempt is made to adjust them to the interests and needs of rural boys and girls.

Little attention has been given to vocational subjects by rural schools. Home economics leads in frequency, being given in thirty-four schools. Bookkeeping is given in sixteen schools and vocational agriculture in fourteen. Typewriting occurs in nine programs, and shop work is given in seven schools.

The fine arts are almost entirely neglected. Music is offered in only two schools.

Educational leadership in the state is confronted by major issues which have developed from the rapidly increasing number of small high schools. On the one hand, practical and plausible procedures must be planned for the improvement of educational opportunity by curriculum reorganization in the small high schools already in existence. On the other hand, it must be emphasized that the principle of equality in educational opportunity cannot be realized by the establishment of innumerable small high schools. It is doubtful whether the policy of the State Department of Education of Texas in standardizing the almost purely academic programs of 176 high schools which enrol fewer than 51 pupils is defensible. Also open to question is the direct or indirect encouragement given a large number of small communities to extend the offerings of their schools for one or two years above the elementary grades for the purpose of giving academic preparation to a few children. In this way the work of the elementary school has in many instances been seriously weakened.

The broadening and the enriching of the program of studies in high schools are dependent on the size of the teaching staff. The number of teachers employed by the schools included in this investigation varies from three to six, the large majority of schools employing three and four teachers. It is unreasonable to expect enriched and properly balanced programs of studies in schools with such a small number of teachers. California may be cited as an example of a state which has evaded the problems of small school systems. In that state there are only eighteen high schools which have fewer than six teachers, and a comparatively small number of schools employ fewer than eleven instructors. In the present study the programs of studies in schools which employ six teachers differ but little from those in schools which have only three or four members on their staffs. In many instances those schools which employ more teachers have tended to offer more courses of the traditional type.

Administrative officers have not been careful in selecting teachers equipped by training to offer courses which would enrich and strengthen the programs of studies. It is true that teachers in small high schools are called on to offer instruction in subjects in two,

three, and even four different departments. This condition does not, however, prohibit wise selection of teachers with respect to the needs of the community. If proper attention is given to teacher appointment and provision is made for subject alternations, curriculum problems may be definitely improved in many small high schools.

Few teachers in the rural high schools have had training in directing pupil activities; hence the extra-curriculum programs are severely limited. It is recognized that the small high school cannot be made a miniature of the large school in curriculum or extra-curriculum organization. Each has its own problems, but no justification can be made, even in the smallest schools, for the almost complete neglect of pupil activities usually found in rural districts. While the opportunity for guidance through exploratory or tryout courses will, of necessity, be limited, this fact does not justify the entire neglect of the guidance function. The major advantage of the small high school comes from the possibility of close contact between teachers and pupils. Teachers in small high schools have unusual opportunities in guidance, and they should be selected with respect to their fitness for counseling as well as for their qualifications for teaching certain subjects.

It may be pointed out that one road to the improvement of rural high schools in Texas will be found in such administrative reorganization as will result in larger administrative units. While millions of dollars have been spent in Texas within the past few years for hard-surfaced highways, these improvements have had comparatively little effect on the consolidation of small school districts. The consolidation of small schools, together with the organization of five-year or six-year high schools, would not only result in better articulation but would also provide for larger groups of high-school pupils. The larger school would make it possible to increase the size of the teaching staff and to broaden and enrich the program of studies. Engelhardt summarizes the problem as follows: "Many schools that could be justified at the time they were first established are no longer essential. Changes in economic conditions, shifts in population, and improved highways have given a new color to the

picture. Yet it is most difficult to abolish a school once it is established."¹

The ideal small high school cannot exist either in theory or in practice. Consolidation and reorganization should be urged in every instance in which this course is at all practical. Even then, many small high schools will be forced to continue their existence, and in such instances every aid should be given toward the improvement of their programs of studies. To these problems the state must specifically address itself. A detailed analysis should be made of the programs of studies and of the extra-curriculum activities of all small high schools, and constructive programs should be worked out for the improvement of existing conditions. It would seem entirely sound to recommend that, before any new rural high school is established, certain definite requirements as to size of enrolment, size of teaching staff, financial ability to maintain a secondary school, major aims and purposes, and other essential prerequisites should be met before permission for the school's establishment is granted by the State Department of Education. Such legislation, in part, is now in effect with respect to the organization of junior colleges, and there seems to be no good reason why it should not operate equally well for the establishment of high schools.

¹ Fred Engelhardt, *Public School Organization and Administration*, p. 274. Boston: Ginn & Co., 1931.

Educational Writings

REVIEWS AND BOOK NOTES

A practical treatise on secondary-school administration.—Administrators who have had some experience with the practical problems of secondary-school organization and administration and all persons who are charged with the responsibility of training prospective secondary-school administrators will be in a position to appreciate a new textbook in this field.¹ Since the publication of Franklin W. Johnson's *The Administration and Supervision of the High School* in 1925, there has been a prodigious output of professional literature, including several textbooks, relating to the administration of this division of the public-school system. This rapid growth of the literature reflects, of course, the growing complexity of the modern secondary school and of the administrative procedures being utilized to direct its multitudinous activities.

The problems of secondary-school management have become so numerous and diverse in character that anyone now attempting to treat them all in a single volume is confronted with an extremely difficult task in the selection of materials. Professor Douglass, who appears to be unusually conversant both with the literature and with actual practice, has met this situation in a masterful way by two main devices: (1) the omission (let us hope for later treatment) of all problems relating to the supervision of instruction and of the historical and philosophical materials usually presented in introductory courses and (2) the inclusion of extended chapter bibliographies to which frequent references are made throughout the book whenever lack of space prevents a detailed presentation of additional important materials bearing on a problem. The treatment, therefore, is both highly condensed and highly objective, and thus the book deals much more largely with the mechanics of administration than with abstract principles. The latter are only briefly mentioned or are omitted entirely from the discussion of most of the problems.

The plan of organization by chapters is not easily discernible. This difficulty might, perhaps, have been overcome to some extent by the grouping of related chapters into "parts," each dealing with a main aspect of administration, such as, "Part I—Organizing the School," "Part II—Organizing the Staff," and "Part III—Organizing the Student Body." On page vii in the Preface the author

¹ Harl R. Douglass, *Organization and Administration of Secondary Schools*. Boston: Ginn & Co., 1932. Pp. xiv+580. \$2.60.

presents a partial sequence of this sort, but he apparently concluded that a systematic and logical arrangement of chapters throughout was either impossible or unnecessary. Consequently, the twenty-two chapters of the book dealing with most of the conventional topics of school administration appear to be arranged in a somewhat random order.

The treatment of the problems taken up in the individual chapters, on the other hand, is clear and logical. In general, it has been the author's aim to present typical best practice. As has been intimated, the practices recommended are usually supported by reference to objective studies listed in the chapter bibliographies. The treatment of some of the problems, such as that in the chapter dealing with the assignment of the staff and the chapters dealing with guidance, is outstanding and represents clearer analyses both of difficulties and of procedures than the reviewer has seen anywhere else. The treatment of most of the other problems is adequate, although often without distinction. The author has not always taken advantage of his opportunity to call attention to progressive changes in administration which are not yet in common practice. Since he also, presumably by design, omitted discussions of theory and philosophy, the book is somewhat lacking in inspiration and constructive vision. The general point of view is sound but conservative. The terminology is conventional. While the author apparently supports the more recent conceptions of education which emphasize continuous experience and personal development on the part of the pupil, his administrative scheme fails to deal with plans for the realization of these ideals and would tend, probably, to perpetuate separate and discrete "subjects of study." More might have been made, also, of the place of extensive reading and the use of the library in the modern secondary school. There is no separate chapter on the use and administration of the library, this subject being treated almost incidentally in two or three chapters dealing mainly with other topics.

Barring these points, on which there is indeed room for difference of opinion, the book is a distinct contribution. It is probably the best textbook on secondary-school administration yet available, and it is the most concise and clear-cut summary of administrative procedures that the practical school man in this field has so far been able to secure.

FREDERICK J. WEERSING

UNIVERSITY OF SOUTHERN CALIFORNIA

Educational research.—During the past few years several books on educational research have been published which are used largely to help graduate students in preparing Master's and Doctor's theses. The books by Reeder, Good, Almack, Crawford, and others have been used in a considerable number of departments of education. Another book of this type has now appeared¹ which, ac-

¹ Frederick Lamson Whitney, *Methods in Educational Research*. New York: D. Appleton & Co., 1931. Pp. xvi+336. \$2.25.

cording to its author, has grown out of seven years of experience in conducting a seminar in educational research with graduate students.

After an introductory discussion Professor Whitney deals in successive chapters with such topics as the following: selecting a problem, selecting a method, outlining the general plan of a study, reviewing previous studies, collecting data, analyzing and classifying data, and preparing the final report. He also has a chapter dealing with traits and abilities which are essential for research. The book adds little to the sum total of the previous books of a similar type but will undoubtedly be used to a considerable extent in courses the object of which is to present to students the various techniques of educational research.

The evaluation of such a book as Professor Whitney's depends on one's notion of research in the field of education. If one thinks of research as a procedure which can be standardized and passed on to any student who is willing to enrol for such a course, the book should probably be commended as a successful contribution toward this end. This concept implies that the discovery of new truth rests primarily on industry and that new truth in education can be obtained by the ordinary methods of mass production. On the other hand, if one conceives of research as something which depends more on intellectual insight than on industry and thinks of the search for truth as an undertaking characterized by all the uncertainty of discovery, then there is much less assurance that a book of this type will contribute anything at all. The reviewer inclines toward the latter point of view. The making of standardized reports can undoubtedly be improved by following the general plans outlined in the book, but it is doubtful whether any important discoveries of truth have actually been preceded by the steps of research which Professor Whitney outlines. For example, the author outlines the following psychological order of steps in a research study:

- A. Deciding on the ultimate purpose, or objective, and writing it in definite form.
- B. Selecting a tentative title, suggested and closely related to the ultimate objective.
- C. Setting down procedures, things to be done, in order that the ultimate goal set up may be reached.
- D. Using the constructive imagination in writing the details of method (techniques) for each procedure.
- E. Reducing each procedure statement to generalized form when it becomes a proximate objective.
- F. Setting up the skeleton of the report, each chapter title between the introductory and the last chapters being suggested by a proximate objective, and section topics under each chapter head often being derived from the "Methods" statements at the right of the parallel outline [p. 33].

The author states later that "the research worker should arrange his agendum of procedures in accord with these psychological steps" (p. 36). The reviewer doubts very much whether the major contributions of research have ever proceeded according to such an outline of steps. This outline reflects just one thing, namely, the way students proceed to carry on their first study after they have been taught by an instructor who believes that these steps should be followed by

beginning students when they undertake research. After one finishes writing a thesis and is impelled by the urge to discover truth, there are marked discrepancies in the order of procedure from the list previously given. Even the objectives of research are frequently modified during the process on account of the partial truths which are obtained while one is engaged in the major project. The selection of a title is ordinarily one of the last concerns of the research worker. In actual practice, instead of writing in detail the method for each procedure, as described in Step C, a research worker carries on and writes afterward. The outline fails to reflect that large element of trial and error which necessarily characterizes research. The discovery of truth cannot be assured by following a formal recipe.

The criticisms in the preceding paragraph represent the reviewer's attitude toward the book as a whole. Research is quite at the opposite pole from these routinized and standardized procedures. The set-up of such procedures reflects an "armchair" method which is again quite in contrast to the process of research. The study of education is probably hampered more than it is furthered by the attempt to identify with the process of research all the thousands of projects which are undertaken as theses. Some theses involve research of high order, but the number which do so is certainly small. The net outcome of trying to reduce research to a series of steps which can be defined in advance is that the general concept of research is shifted from a search for generalized, scientific truth to a solution of local and often trivial problems which can be described as "problems" only by courtesy.

As a book which outlines and discusses a fairly formal method of procedure for the novice to follow in his first attempts to carry on a serious study, the book contains a great deal which may be commended. The author has drawn from a great variety of sources and gives evidence of familiarity with other efforts similar to his own. If, however, one conceives of research as a process undertaken by a person who has previously so familiarized himself with a field that the problems studied are, for him, genuine rather than formal, then any such formal directions as Professor Whitney's chapters provide will be unnecessary. As a substitute for this formalized routine, the reviewer would propose a method of training students to do research which consists in a thorough saturation in the literature of a specific field plus a major stimulation of his intellectual interests relating to the unsolved problems in this field. Assuming that the student possesses intelligence, he should not be hampered by formal directions. The book under review is in this sense not a treatment of "methods in educational research" but rather a treatment of the standardization of a method for carrying on more or less routine studies.

G. T. BUSWELL

A review of secondary education.—A recently published book on secondary education¹ has for its purpose, according to the prefatory statement of the au-

¹ William A. Smith, *Secondary Education in the United States*. New York: Macmillan Co., 1932. Pp. xvi+430.

thor, "to trace the rise and development of the democratic American secondary-school system and to characterize and interpret its contemporary functioning" (p. v). This is a large task for a single volume. It implies both comprehensiveness of treatment and recency of consideration of the problems of secondary education.

Careful reading of the book shows that the purpose of the author has been only partially achieved. The book contains only twelve chapters approximating about four hundred pages of content. This number includes some sixty-odd pages of quoted material and forty-eight tabular statements, the large majority of which are quoted from material published between 1921 and 1926. Three chapters are required to restate the history of secondary education in the United States; one to compare the American secondary school with foreign institutions of similar grade; one to redefine the scope and functions of secondary education; one to restate the characteristics and needs of secondary-school pupils; four to review curriculum-making, the program of studies, and curriculum practices; one to explain the extra-curriculum; and a concluding chapter to recapitulate the changed conceptions and practices of teaching in secondary schools.

A comparison of the volume with comprehensive treatments of secondary education, such as *Principles of Secondary Education* by Inglis (1918) and certain more recent treatises, reveals its inadequateness as a comprehensive textbook. In the first place, large areas which belong in a general treatment of secondary education are omitted, such as the organization and types of secondary schools, development of buildings and grounds, costs of activities, staff problems, guidance of pupils, and community relations. In the second place, the author reveals slight evidence of a broad knowledge of current problems in secondary education. Excepting a small number of citations and a meager amount of quoted material, the volume might just as well bear the copyright date of 1926 as 1932. The chapter on "The Extra-Curriculum" is a striking example of the author's lack of familiarity both with the recent general literature on extra-curriculum activities and with the investigations in the field. In the third place, despite the statement made by the author that, at the risk of being accused of lack of originality, he has made large use of quantitative and factual materials, one looks in vain for factual support for the assumption, or even a factual basis for the prediction, "that the educational regimen corresponding to this period [the entire secondary period] will gradually take the form of two cycles—a four-year junior high school and a four-year senior high school" (pp. vi-vii).

It is difficult to see what purpose this volume will serve in secondary education. (1) The book fails to meet the requirements of a textbook for courses in secondary education on account of a lack of comprehensiveness and the neglect of consideration of the recent literature in the field. (2) It does not provide the type of material instructors will desire for the supplementary reading of their students. Most instructors will prefer that their students assimilate reference materials directly from the authors drawn on so heavily in the book (Counts, Morrison, and Koos) rather than that they become acquainted merely with the

author's interpretation of these materials. (3) Since the volume offers only a review and a reinterpretation of secondary education and no personal contribution to the field by the author, it will make no great appeal to the student of secondary-school problems, whose time will scarcely permit the retilling of a field that has already been more thoroughly cultivated by other writers.

W. C. REAVIS

World-culture in the junior high school.—The last two volumes of the Rugg Social Science Course,¹ according to the author, provide for pupils in Grade IX "a self-contained, elementary treatment of world-culture. The pupil who may not have studied the previous volumes of the series will suffer no inconvenience" (p. v). This six-volume series may fairly be called the most ambitious project in textbook construction that has yet been attempted in the field of the social studies for secondary schools. Here is a single author, aided by research associates and editorial assistants, who has devoted nine years to a program of research and who has secured the co-operation of more than three hundred school systems in using one or more of the three experimental editions. The judgments of more than a thousand teachers have been obtained, and more than fifty thousand tests taken by pupils have been examined in order to determine what revisions were necessary. Within a single series of textbooks, history, geography, economics, sociology, and political science have been unified to the end of helping pupils "to understand modern life and how it came to be" (p. vii).

An Introduction to Problems of American Culture includes, among others, chapters dealing with the changing American family, scientific planning in industry, changing community government in America, some problems of law enforcement and crime, how public opinion is formed, the rise of the fine arts in America, and the assimilation of different nationalities and races. An earlier volume in the series, *An Introduction to American Civilization*, has dealt chiefly with "economic life in the United States today" (p. v). Two volumes, *A History of American Civilization: Economic and Social* and *A History of American Government and Culture*, have given the "history of the civilization and culture of the United States in its geographic setting." This new volume "completes the description of American society, . . . introducing the economic, political, and social problems of American culture" (pp. v-vi).

Changing Governments and Changing Cultures includes chapters dealing with storm centers of the world; government in the Dark Ages; the scientific revolution; how frontier thinkers directed the world's march toward democracy; Great Britain, the first representative government; from absolutism to representative government in France; empire by divine right, Germany until 1918;

¹ a) Harold Rugg, *An Introduction to Problems of American Culture*. Boston: Ginn & Co., 1931. Pp. xvi+616.

b) Harold Rugg, *Changing Governments and Changing Cultures: The World's March toward Democracy*. Boston: Ginn & Co., 1932. Pp. xvi+702.

the new Russia, transforming a backward nation; modern European culture and the fine arts; China, the breakdown of an old culture; the struggle for democracy in Japan; India's march toward self-government; Mexico, a changeless culture; how the modern world is governed; and world-conflict versus world-organization. An earlier volume, *Changing Civilizations in the Modern World*, has introduced "the pupil to economic and social life in other lands" (p. v). This new volume presents "the chief political and social problems of other leading countries of the world" (p. vi).

An Introduction to Problems of American Culture is a far more satisfactory book than is *Changing Governments and Changing Cultures*. Both books are well written. The style is vivid. The vocabulary is simple. Numerous illustrations are used, including photographs, cartoons, diagrams, charts, and graphs. Effective use is made of many short tables. The superiority of the volume on American culture does not consist in any of these features; it rather results from the fact that this is the final volume in a series of four which have been devoted exclusively to the United States, while the volume on world-culture is the final volume in a series of two which have attempted to deal with four countries of Europe, three countries of Asia, and Latin America. The two historical volumes on the United States contain about twelve hundred pages. The concluding volume in that sequence may, therefore, presuppose a rather adequate understanding of the history of the United States. It is free to make an attempt to acquaint the pupil with the current problems of American life.

On the other hand, the volume on world-culture is essentially historical in character. It is a one-volume treatment of world-history, using four leading countries of Europe, three of Asia, and Mexico as typical of Latin America. As a result of the limited space available, the essential background of European culture in the Greek and Roman civilizations is omitted entirely. The history of France begins with the year 800, and the story of the next seven hundred years is crowded into ten pages. The history of England for the corresponding seven hundred years receives twelve pages. Tables of kings and page after page of lists of names and dates, such as those given on pages 139-46 and 490-94, indicate the extent to which condensation may go. The entire story of England's march toward democracy is given in sixty-six pages. France receives sixty-nine pages; Germany, thirty-three; Russia, fifty-six; China, twenty-four; Japan, twenty-two; India, twenty; and Mexico, twenty-three. The first part of the volume presents the background of western democracy in four chapters and gives two chapters to frontier thinkers and their part in directing the world's march toward democracy. One chapter briefly shows how the race for empire led to the World War. One unit describes the new culture of industrial Europe. Another tells how the modern world is governed. The final chapter presents in thirty-three pages the insistent problems of the modern world.

When a unified course in social science was being planned, why was it desirable to treat the United States in isolation? That such a policy has been followed is evident from an analysis of the indexes. The Index of the first volume on

other countries contains no references to the United States, and that of the second contains only three references. The first reference is to a discussion in six lines of the Napoleonic wars and the United States; the second reference is to a one-page discussion of the foreign possessions of the United States; and the third reference is to a nine-line discussion of the Americanization of Europe through the cinema, the radio, and the automobile. In the volume on American culture the only references to other countries in the Index are as follows: "architecture, European models in American"; "books, importation of British, American reprinting of British"; "crime in the United States, comparison of crime in other countries with"; "English common law"; "immigration, introduction of European culture through"; "liberty, European growth of the idea of individual"; "music, European origin of American, European influence upon American"; "painting, influence of French school upon American"; "theater, European plays in the American." The total space given to these references to other countries amounts to fewer than fifteen pages. The United States is thus cut off from the rest of the world in this social-science course.

Canada receives scant attention in this series. In the first volume five lines are given to the statement that in 1927 our trade with Canada was greater than that with any other country. In the second volume Figure 47 compares Canada and the British Isles in size by means of a small map and a bar graph. On page 133 of this volume pupils are instructed to turn back to Figure 46 to find how many times larger Canada is than India. Figure 46 gives a map of the world on Mercator's projection and therefore gives no accurate basis for comparing the sizes of Canada and of India. In the third volume Cartier's explorations and the settlement of Canada by Champlain are briefly treated. In the fourth volume the campaign in Canada in the Revolutionary War is given fifteen lines; the campaigns on the Canadian border in 1812 receive three pages; our long unfortified border receives six lines; and the arbitration of the Oregon claims receives two pages. In the fifth and sixth volumes the Indexes make no mention of Canada.

Latin America fares a little better than Canada. In the second volume thirty-eight pages are given to a general treatment, followed by seven pages given to Argentina, six pages to Brazil, and five pages to Chile. In the sixth volume twenty-three pages are devoted to Mexico.

The last volume shows some signs of haste in production. On page 116 the second paragraph should follow the third. On page 150 "determined merchants" are given credit for first securing charters of liberty from absolute kings, but the facts are correctly stated on page 157 where "well-to-do land barons and church officials" are said to have compelled King John to sign the Magna Carta in the year 1215. On page 160 the end of the Angevin line is given as about 1300 instead of about 1400 as shown in Table III on page 74; the rivalry of the families of Lancaster and York is said to have extended over almost two hundred years instead of almost one hundred years. Table XII on page 322 gives the value of all farm products in France in 1860 and 1913 as six million and eleven million

francs, respectively. The next to the last paragraph on page 397 is misleading in that the impression is given that all Russia has the midnight sun. On page 418 the overthrow of the provisional government of Kerenski is said to have taken place in November, 1918, instead of 1917 as given on page 419.

The Rugg Social Science Course should be widely used. The present edition is attractive in format, with large, clear type, and conforms to the highest standards for textbooks. The first five volumes are well suited to use in classes of average reading ability. The sixth volume is not inferior to the others except that it is improperly placed and too much condensed. If the sharp isolation of the United States in the school program which is exemplified in this series is accepted, then a three-semester sequence dealing with world-history and current problems of world-culture might be planned for the last half of Grade IX and Grade X. In actual use it is possible that the sixth volume would prove to be quite as satisfactory in Grade IX as the fifth volume.

A. K. LOOMIS

Education in Paraguay.—In a recent study of mission education in Paraguay,¹ an attempt is made to survey "Paraguay's outlook as to health, economic conditions, social organizations, and educational accomplishments" and "to determine as accurately as possible what the objectives of a mission school in Paraguay should be" (p. 2).

Attention is called to the devastating and depopulating effect of Paraguay's war with Argentina, Brazil, and Uruguay, during which Paraguay lost nearly half its population, emerging with a population estimated at 300,000 and having a sex ratio of approximately one male to ten females. In the chapter on health the author indicates that practically all Paraguayans are infected with hook-worm. School children are often so heavily infected as to have little vitality for education.

It is stated in the chapter on "Economic Conditions in Paraguay" that economic progress has been made in recent years but that the lack of highways, the inadequacy of railways, the low standard of living, the paucity of foreign and domestic commerce, and other factors indicate a lack of economic development.

The sixth chapter, "Social Advancement in Paraguay," deals largely with the social character of the population. A large proportion of the people are mestizos. Since about 1870 there has been some immigration of Italians and west Europeans, who often hold influential political and commercial positions. Approximately seven-eighths of the people are Catholics. Illegitimate children are numerous. In 1921 the births of 2,810 children were registered in the six districts of the capital, of whom 1,915 were illegitimate. Paraguay has no social class of middle status; it is like Mexico in that it has only rich and poor, governing and governed, master and servant.

¹ Arthur Elwood Elliott, *Paraguay: Its Cultural Heritage, Social Conditions and Educational Problems*. Teachers College Contributions to Education, No. 473. New York: Teachers College, Columbia University, 1931. Pp. xiv + 210. \$2.50.

The next three chapters relate mainly to public elementary and secondary schools and to private schools. "Of the 2,321 persons teaching in primary and normal schools in 1928, 348 had had either three or four years' training beyond the primary-school course" (p. 84). "At the present rate of graduating teachers with diplomas, it will take all the normal schools of Paraguay sixteen years to replace the present teachers who do not have a diploma of any category" (p. 189). In 1917, 10.66 per cent of the population was enrolled in elementary schools and in 1930, 12.33 per cent. In 1925, 75 per cent of this enrolment was in the first grade and 17 per cent in the second grade. Hence, children either do not remain long in school, or they make little progress while there. It follows that secondary education is undeveloped. By December, 1927, three of the five public secondary schools had been closed, one secondary school remaining in the capital and one in Villa Rica. In 1930 there were 1,410 pupils enrolled in public and private secondary schools in Paraguay, a country about the size of Texas having in 1929 a population of approximately 844,000 inhabitants. The program of these schools is characterized as "academic and formal."

Three chapters, covering thirty-six pages, are devoted to objectives of mission schools, development of Christian character, and composition of the school environment. These chapters consist largely in quotations. Numerous comparative statements are included regarding mission schools in different countries in which such schools are operated. These chapters present few or no objective data. Reliance is placed rather on the opinions of educators, which have not been particularly well correlated nor oriented to bear directly on the situation in Paraguay.

The concise summary chapter is an asset. A brief appendix entitled "Public Instruction in Paraguay" is included, as are also a bibliography of ten pages, and a fairly elaborate table of contents. There is no index.

A strong feature of the study is the attempt made by the author to view the educational situation as a part of the whole social and economic fabric of the country by showing the relation to education of the character of population, health and sanitation, transportation, national income, standard of living, and other factors. The study will, therefore, be welcomed particularly by persons interested in comparative education or educational sociology.

UNIVERSITY OF ILLINOIS

HAROLD H. PUNKE

Research problems in industrial education.—There is an amazing lack of understanding among teachers and students of education regarding the magnitude of the field of industrial education. That the field includes much which is unrelated to the work of the conventional school is not generally appreciated. Industrial education is concerned with the whole range of problems involved in industrial apprenticeship, the training of all grades of workers from the unskilled to the engineer by industry itself, all types of co-operative training by the schools and industry working together, and the whole school program of industrial

courses. The range and character of these problems are clearly seen in Professor Homer J. Smith's recent book¹ containing a list of one thousand problems in industrial education.

One is immediately impressed by the care with which the problems are formulated and the surprisingly large number which are obviously questions of great importance. Professor Smith has not only formulated and compiled a valuable list of research problems but has contributed a rather unique scheme of work for graduate seminar groups in industrial education. A careful reading of the section "Suggestions for the Use of the List" reveals that the book can be used for a variety of helpful studies aside from the solving of the problems listed. The listed topics, which constitute the major part of the volume, are not classified nor arranged in any significant sequence. The failure to use a particular arrangement was deliberate, the author says, and the explanation is fully satisfactory when the different uses of the book are considered. After examining this little book of ninety pages, one can scarcely fail to be impressed with the importance and the extensive range of challenging research problems in the field of industrial education. The book doubtless will find a ready welcome from progressive supervisors and directors in the city as well as from college and university teachers of industrial education. It will be of particular interest to graduate students in education.

UNIVERSITY OF ILLINOIS

ARTHUR B. MAYS

A summary of the professional literature in the field of social-science-teaching.—For a number of years there has been a need for a handbook summarizing the recent and current materials relating to the teaching of the social sciences. Those actively engaged in this phase of school work will welcome a volume which has recently come from the press.² As indicated in the Introduction, the authors of the volume have made no attempt "to be either profound or prophetic," choosing rather to present the material in its raw form without evaluation or interpretation.

The summaries are presented in nine well-organized chapters, the first of these being devoted to a narrative account of the historical development and recent trends in the social sciences. After listing aims and objectives under three general headings in chapter ii, the authors present in chapter iii a large body of material concerning the course content and curriculum organization. Following these chapters appear summaries of material relating to instructional techniques,

¹ Homer J. Smith, *One Thousand Problems in Industrial Education: A List of Titles Appropriate for Term Papers and Theses by Graduate Students and for Practical Research Projects by Men Active in Administration and Supervision*. Minneapolis, Minnesota: University of Minnesota Press, 1931. Pp. 90. \$1.00.

² Della Goode Fancier and Claude C. Crawford, *Teaching the Social Studies*. Los Angeles, California: C. C. Crawford (University of Southern California), 1932. Pp. 376.

the social-science laboratory, correlation with other subjects, related extra-curriculum activities, measuring results, and the teacher. For those who wish to read widely on each phase of the work, an adequate list of references is available at the end of each chapter. A true-false test also appears at the end of each chapter. This test is intended as a basis of discussion rather than a formal measure of the amount of information.

While the compilers of the material in this book have done a real service to the teaching of the social sciences in general, the neophyte will encounter grave difficulties in using it. For example, on page 28 there is a statement to the effect that Denver, Colorado, has in use a unified course in the social sciences. On the following page appears this statement: "Following the unit idea, the work in history, civics, geography, economics, and sociology is outlined under a selected list of units" (p. 29). To one who is not well versed in the varied uses of the word "unit," these two statements will have little meaning. Furthermore, the authors make the following statement in the Preface: "All the social studies are treated." After reading this statement, the writer looked in vain for material on English, Latin, chemistry, biology, and drawing, which are in reality social studies in more senses than one.

For the types of difficulty represented in the foregoing cases, the makers of the summaries in the various chapters of the book are not wholly responsible. General lack of uniformity in nomenclature is at the bottom of all such difficulties. No book has previously appeared which exhibits these difficulties more adequately than does the volume under review. Inconsistency and lack of uniformity in the use of terms and expressions abound throughout its pages. The character of the material made such inconsistencies and lack of uniformity inevitable. However, in spite of these unavoidable difficulties, the book is well worth the efforts its authors have exemplified and will meet a long-felt demand in its field.

R. M. TRYON

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

- BEAVER, ALMA PERRY. *The Initiation of Social Contacts by Preschool Children: A Study of Technique in Recording Social Behavior*. Child Development Monographs, No. 7. New York: Teachers College, Columbia University, 1932. Pp. 66.
- BILDERSEE, DOROTHY. *Teaching the Primary Grades*. New York: D. Appleton & Co., 1932. Pp. xx+332. \$2.00.
- Child Labor*. Report of the Subcommittee on Child Labor, Ellen Nathalie Mathews, Chairman. Section III, Education and Training, White House Conference on Child Health and Protection. New York: Century Co., 1932. Pp. xx+592. \$5.00.

- The Direct Contribution of Educational Psychology to Teacher Training.* Yearbook XX of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1932. Pp. vi+154. \$1.50.
- EATON, THEODORE H. *College Training: Its Rationale.* New York: John Wiley & Sons, Inc., 1932. Pp. xii+264. \$2.50.
- MCGUCKEN, WILLIAM J. *The Jesuits and Education: The Society's Teaching Principles and Practice, Especially in Secondary Education in the United States.* Milwaukee, Wisconsin: Bruce Publishing Co., 1932. Pp. xxvi+352. \$4.00.
- MONROE, MARION. *Children Who Cannot Read: The Analysis of Reading Disabilities and the Use of Diagnostic Tests in the Instruction of Retarded Readers.* Chicago: University of Chicago Press, 1932. Pp. xvi+206. \$2.50.
- Supervision and the Creative Teacher.* Fifth Yearbook of the Department of Supervisors and Directors of Instruction of the National Education Association. New York: Teachers College, Columbia University, 1932. Pp. x+348.
- TANNAHILL, SALLIE B. *Fine Arts for Public School Administrators.* New York: Teachers College, Columbia University, 1932. Pp. xvi+146.
- THOM, DOUGLAS A. *Normal Youth and Its Everyday Problems.* New York: D. Appleton & Co., 1932. Pp. xvi+368. \$2.25.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

- CLARK, MARION G. *Westward to the Pacific.* New York: Charles Scribner's Sons, 1932. Pp. xii+498. \$1.20.
- DUGGAN, ANNE SCHLEY. *Tap Dances.* New York: A. S. Barnes & Co., Inc., 1932. Pp. xxxviii+110. \$2.00.
- EDMONSON, JAMES B., and DONDINEAU, ARTHUR. *A Pupil's Workbook in Occupations.* New York: Macmillan Co., 1932. Pp. 116. \$0.60.
- LEEMAN, JEAN. *Historiettes: A First Year Conversational Reader.* New York: Harcourt, Brace & Co., 1932. Pp. xiv+152. \$1.00.
- MACHEREY, MATHIAS H., and RICHARDS, JOHN N. *Pyramids Illustrated: A Comprehensive Manual for Class Use and Exhibition Purposes.* New York: A. S. Barnes & Co., Inc., 1932. Pp. xiv+190. \$3.00.
- PAHLOW, EDWIN W. *Man's Great Adventure: An Introduction to World History.* Boston: Ginn & Co., 1932. Pp. xiv+854+xxiv. \$2.12.
- RANDLE, DOROTHY DAVIES, and HILLAS, MARJORIE. *Tennis Organized for Group Instruction.* New York: A. S. Barnes & Co., Inc., 1932. Pp. xxiv+166. \$1.60.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

- CHAMBERLAIN, LEO M., and GARD, PAUL D. *Study Habits of Junior College Students.* Bulletin of the Bureau of School Service, Vol. IV, No. 1. Lexington, Kentucky: University of Kentucky, 1931. Pp. 40. \$0.50.

- DIXON, JOHN. *The Dixon Class Card*. Milwaukee, Wisconsin: Bruce Publishing Co., 1932.
- Finance and Business Administration*. Review of Educational Research, Vol. II, No. 2. Washington: American Educational Research Association of the National Education Association, 1932. Pp. 95-182.
- GATES, ARTHUR L., and OTHERS. *The Modern School Achievement Tests*. New York: Teachers College, Columbia University, 1931.
- A Guide for Teachers of Beginning Non-English Speaking Children*. State of California Department of Education Bulletin, No. 8. Sacramento, California: State Department of Education, 1932. Pp. viii+68.
- OVERN, A. V. *A Survey of Instruction and Supervision, East Grand Forks, Minnesota*. School of Education Bulletin, No. 10. Departmental Bulletin of the University of North Dakota, Vol. XV, No. 5. Grand Forks, North Dakota: University of North Dakota, 1931. Pp. 80.
- Recent issues of the Office of Education:
- Bulletin No. 1, 1932—*Educational Directory, 1932: Part I, Elementary and Secondary School Systems*.
- Bulletin No. 4, 1932—*Record of Current Educational Publications, October-December, 1931*.
- Pamphlet No. 28 (1932)—*A Study of the Educational Value of Military Instruction in Universities and Colleges* by Ralph Chesney Bishop.
- Twenty-sixth Annual Report of the President and of the Treasurer of the Carnegie Foundation for the Advancement of Teaching*. New York: Carnegie Foundation for the Advancement of Teaching, 1931. Pp. xi+130.

MISCELLANEOUS PUBLICATIONS

- BOLDYREFF, TATIANA W. *By Word of Mouth: Informal Essays on Language and Psychology from a Teacher's Point of View*. Boston: Richard G. Badger, Publisher, 1931. Pp. 144. \$2.00.

